



AGRICULTURAL RESEARCH INSTITUTE  
PUSA







TRANSACTIONS  
OF  
THE HIGHLAND AND AGRICULTURAL  
SOCIETY OF SCOTLAND

WITH  
AN ABSTRACT OF THE PROCEEDINGS AT BOARD AND GENERAL  
MEETINGS, AND THE PREMIUMS OFFERED BY  
THE SOCIETY IN 1923

PUBLISHED ANNUALLY



FIFTH SERIES

VOL. XXXV.

---

EDITED BY JOHN STIRTON, SECRETARY TO THE SOCIETY

---

EDINBURGH:  
WILLIAM BLACKWOOD & SONS, 45 GEORGE STREET  
AND 37 PATERNOSTER ROW, LONDON

1923

# WORKS ON AGRICULTURE, &c.

## JOURNAL OF AGRICULTURE, AND TRANSACTIONS OF THE HIGHLAND AND AGRICULTURAL SOCIETY OF SCOTLAND.

Second Series, 1828 to 1843, 21 vols.—*out of print*.

Third Series, 1843 to 1865, 22 vols.—*out of print*.

## INDEX TO THE FIRST, SECOND, AND THIRD SERIES OF THE TRANSACTIONS OF THE HIGHLAND AND AGRICULTURAL SOCIETY OF SCOTLAND FROM 1799 TO 1865. Cloth, 5s.

## TRANSACTIONS OF THE HIGHLAND AND AGRICULTURAL SOCIETY OF SCOTLAND. Fourth Series, 1866-71, 6 numbers, sewed, 4s. each; 1872-88, 17 volumes, cloth, 5s. each. Vols. for 1878 to 1884 *out of print*.

## INDEX TO THE FOURTH SERIES OF THE SOCIETY'S TRANS- ACTIONS FROM 1866 TO 1888, bound in cloth, 3s.

## TRANSACTIONS OF THE HIGHLAND AND AGRICULTURAL SOCIETY OF SCOTLAND. Fifth Series, 1889-1918, 30 volumes, bound in cloth, 5s. each. Vols. for 1889, 1890, 1893, 1894, 1899 to 1902, 1905 *out of print*.

## INDEX TO THE FIFTH SERIES OF THE SOCIETY'S TRANS- ACTIONS.

From 1889 to 1895, paper cover, 1s.

From 1896 to 1902, paper cover, 1s.

From 1903 to 1909, paper cover, 1s.

From 1910 to 1916, paper cover, 1s.

## REPORT ON THE PRESENT STATE OF THE AGRICULTURE OF SCOTLAND, ARRANGED UNDER THE AUSPICES OF THE HIGHLAND AND AGRICULTURAL SOCIETY. Presented at the International Agricultural Congress at Paris in June 1878. Cloth, 5s. *Free to Members on application to the Secretary.*

## DICTIONARIUM SCOTO - CELTICUM: A DICTIONARY OF THE GAELIC LANGUAGE, in two volumes. Compiled and published under the direc- tion of the Highland Society of Scotland, 1828. Bound in cloth, £7, 7s.; 6 copies on extra paper, £10, 10s.

## PRACTICAL REMARKS ON AGRICULTURAL DRAINAGE. By WILLIAM W. HOZIER of Tannochside. Prize Report, published under the auspices of the Society, 1870. Cloth, 1s.

## HUMANITY TO ANIMALS, BEING EXTRACTS FROM PRIZE ESSAYS ON THE MOST EFFECTUAL METHOD OF INCUICATING THAT DUTY IN ELEMENTARY SCHOOLS. Published under the auspices of the Society. Sewed, 3d.

## HISTORY OF THE HIGHLAND AND AGRICULTURAL SOCIETY OF SCOTLAND, WITH NOTICES OF ANTERIOR SOCIETIES FOR THE PROMOTION OF AGRICULTURE IN SCOTLAND. By ALEXANDER RAMSAY, LL.D. Demy 8vo, cloth, 16s.

## THE PINE BEETLE (*Hylesinus piniperda* L.) By W. SOMERVILLE, D.Sc., B.Sc. Prize Report. Sewed, 3d.

*The above Works can be had on application to WILLIAM BLACKWOOD & SONS,  
45 George Street, Edinburgh, and 37 Paternoster Row, London.*

# CONTENTS

---

	PAGE
1. THE IMPORTANCE OF MINERAL MATTER IN NUTRITION. By J. B. ORR, D.S.O., M.C., M.A., M.D., D.Sc. . . . .	1
2. VALUE OF ENSILAGE. VIEWS OF USERS IN SCOTLAND. By DAVID M'CULLOCH . . . . .	28
3. A PIG-FEEDING EXPERIMENT. (INDOOR <i>VERSUS</i> OUTDOOR FEEDING.) By Principal W. G. R. PATERSON, B.Sc. ( <i>Illustrated</i> ) . . . . .	43
4. AN EXPERIMENT ON FINGER-AND-TOE BY LIMING. By Professor JAMES HRNDRICK, B.Sc. ( <i>Illustrated</i> ) . . . . .	54
5. RED POLL CATTLE. THEIR HISTORY, CHARACTERISTICS, AND CAPABILITIES. By DAVIS BROWN, M.A., J.P. ( <i>Illustrated</i> )	69
6. SHROPSHIRE SHEEP. By THOMAS A. BUTTAR. ( <i>Illustrated</i> ) .	84
7. INSECT AND OTHER PESTS OF 1922. By R. STEWART MACDOUGALL, M.A., D.Sc. ( <i>Illustrated</i> ) . . . . .	90
8. MILK RECORDS. By WILLIAM STEVENSON, B.Sc., N.D.A., N.D.D. . . . .	132
9. ANALYSES FOR MEMBERS DURING 1922. By Dr J. F. TOCHER	153
10. DEMONSTRATION OF FARM TRACTORS AND TRACTOR IMPLEMENTS, WITH A DESCRIPTION OF TRACTORS AND IMPLEMENTS by Professor R. STANFIELD, and REPORTS BY THE COMMITTEE. ( <i>Illustrated</i> ) . . . . .	163
11. THE CEREAL AND OTHER CROPS OF SCOTLAND FOR 1922, AND THE WEATHER OF SCOTLAND IN 1922—	
The Crops . . . . .	235
The Weather of Scotland in 1922. By ANDREW WATT, M.A., F.R.S.E. . . . .	260
Rainfall Records for 1922 in inches . . . . .	268
12. AGRICULTURAL STATISTICS . . . . .	269
13. PRICES OF GRAIN IN EDINBURGH MARKET FOR 1922 . . . . .	281

14. PRICES OF SHEEP SINCE 1818 . . . . .	282
15. PRICES OF WOOL SINCE 1818 . . . . .	285
16. GENERAL SHOW AT DUMFRIES, 1922. ( <i>Illustrated</i> ) . . . . .	288
17. PREMIUMS AWARDED BY THE SOCIETY IN 1922 . . . . .	319
18. STIRLING SHOW, 1921, ALTERATIONS IN PRIZE LIST . . . . .	381
19. ACCOUNTS OF THE SOCIETY FOR 1921-22 . . . . .	383
20. PROCEEDINGS AT THE SOCIETY'S BOARD AND GENERAL MEETINGS . . . . .	391

## APPENDIX A.

PREMIUMS OFFERED BY THE SOCIETY IN 1923 . . . . .	1
---	---

## APPENDIX B.

LIST OF MEMBERS OF THE SOCIETY, 1923 (APRIL) . . . . .	1
--	---

INDEX TO FIFTH SERIES OF THE SOCIETY'S 'TRANSACTIONS,' VOLUMES XXIX. TO XXXV. (1917 TO 1923) . . . . .	<i>At end</i>
---	---------------

\*.\* *It is to be distinctly understood that the Society is not responsible for the views, statements, or opinions of any of the Writers whose Papers are published in the 'Transactions.'*

# ILLUSTRATIONS

FIG.	PAGE	FIG.	PAGE
1. Four typical pigs from the indoor group when thirty weeks old . . . . .	49	26. Poplar Hawk Moth . . . . .	105
2. Four typical pigs from the outdoor group when thirty weeks old . . . . .	50	27. The Wood Leopard Moth . . . . .	106
3-6. Experiment on finger-and-toe by liming, showing limed and unlimed plots . . . . .	62, 63	28. Caterpillar of Wood Leopard Moth $\times 3$ . . . . .	106
7. Red Poll Bull . . . . .	71	29. Caterpillar of Wood Leopard Moth in its tunnel . . . . .	107
8. Red Poll Two-year-old Bull . . . . .	72	30. Potatoes spoiled by the caterpillars of <i>Agrotis segetum</i> . . . . .	109
9. Red Poll Yearling Bull . . . . .	73	31. Nest of <i>Bombus lapidarius</i> usurped by <i>Psithyrus rupestris</i> . . . . .	114
10. Red Poll Two-year-old Steer . . . . .	74	32. <i>Psithyrus rupestris</i> , Queen, and <i>Bombus lapidarius</i> , Queen . . . . .	115
11. Red Poll Cow . . . . .	75	33. <i>Bombus lucorum</i> , Queen, and <i>Psithyrus distinctus</i> , Queen . . . . .	115
12. Red Poll Three-year-old Heifer . . . . .	76	34. <i>Chermes cooleyi</i> on Douglas Fir in Perthshire . . . . .	120
13. Red Poll Yearling Heifer . . . . .	77	35. Branch of young Silver Fir attacked by <i>Chermes</i> . . . . .	121
14. Red Poll Two-year-old Heifer . . . . .	78	36. <i>Chermes</i> on Silver Fir . . . . .	122
15. Shropshire Shearling Ram, "Corston Majestic" . . . . .	86	37. <i>Tabanus sudeticus</i> . . . . .	124
16. Shropshire Yearling Ewe . . . . .	87	38. Larva of <i>Tabanus biguttatus</i> . . . . .	124
17. Ash inflorescences spoiled by <i>Eriophyes frazzini</i> . . . . .	93	39. Leaves showing mine and blotch made by larva of the Holly Leaf Miner . . . . .	125
18. Fruits of Ash . . . . .	94	40. Leaf of <i>Cineraria</i> showing the mines of the larvæ of <i>Phytomyza</i> . . . . .	127
19. <i>Dermanyssus gallinae</i> . Female . . . . .	97	41. <i>Phytomyza geniculata</i> . . . . .	128
20. <i>Lipeurus variabilis</i> . From Hen . . . . .	98	42. Side view of Larva of <i>Phytomyza geniculata</i> . . . . .	128
21. <i>Humatopinus eurysternus</i> . Female . . . . .	100	43. Puparium of <i>Phytomyza geniculata</i> from leaf of <i>Chrysanthemum</i> . . . . .	12
22. Large Cabbage White Butterfly. Male . . . . .	101		
23. Large Cabbage White Butterfly. Female . . . . .	102		
24. Green-veined Cabbage White Butterfly . . . . .	103		
25. <i>Acherontia atropos</i> . . . . .	104		

FIG.	PAGE	FIG.	PAGE
44. Side view of larva of <i>Phytomyza flavicornis</i> . . . . .	130	78. Ransomes self-lift single-furrow sub-soiling Plough, RSLS-TCP . . . . .	215
45. General View, showing Tractors at Work . . . . .	164	79. Ransomes self-lift sub-soiling Plough, RSLD-TCP . . . . .	215
46. Another View, showing a Plot finished by Tractor . . . . .	165	80. Ransomes 9-tine self-lift Cultivator . . . . .	217
47. The Austin Tractor . . . . .	168	81. Ransomes self-lift Stubble Breaker . . . . .	219
48. Blackstone Tractor . . . . .	170	82. Ransomes 3-row Ridger . . . . .	220
49. British Wallis Tractor . . . . .	172	83. Ransomes 3-row Potato Coverer . . . . .	220
50. Case Tractor, 12-20 H.-P. . . . .	175	84. Ruston & Hornsby self-lift 3-furrow Plough . . . . .	222
51. Cletrac Tractor, 25 H.-P. . . . .	177	85. Ruston & Hornsby self-lift deep-digging Plough . . . . .	223
52. Fordson Tractor . . . . .	179	86. Sellar self-lift 2-furrow Plough . . . . .	224
53. Glasgow Tractor . . . . .	182	87. Oliver No. 78 self-lift Plough . . . . .	226
54. Hart-Parr Tractor, 30 H.-P. . . . .	184	88. Roderick Lean disc Harrow . . . . .	227
55. International Junior Tractor . . . . .	187	89. Wilder pitch pole drag Harrow . . . . .	228
56. Simar Rotary Tiller . . . . .	189	90. Walter A. Wood Company spring-tooth Harrow . . . . .	230
57. Begg self-lift 2-furrow Plough . . . . .	192	91. Walter A. Wood Company double-disc Harrow . . . . .	230
58. Cockshutt self-lift 2-furrow Plough . . . . .	194	92. Shorthorn Bull, "Bridgebank Paymaster" 154,308 . . . . .	301
59. Grand Detour self-lift 3-furrow Plough . . . . .	195	93. Aberdeen-Angus Cow, "Buxom Maid of Connage" 65,203 . . . . .	301
60. Massey-Harris self-lift 2-furrow Plough . . . . .	196	94. Galloway Cow, "Tarbroach Blue Bell 3rd" 26,883 . . . . .	302
61. Massey-Harris self-lift Cultivator . . . . .	197	95. Highland Bull, "Ossian Ban of Atholl" . . . . .	302
62. Massey-Harris Disc Harrow . . . . .	198	96. Ayrshire Cow, "Aitkenbrae Ella 3rd" 47,263 . . . . .	303
63. Massey-Harris Spring-tooth Harrow . . . . .	199	97. British Friesian Heifer, "Royal Akke" 48,580 . . . . .	303
64. Howard self-lift 2-furrow Plough . . . . .	200	98. Red Poll Bull, "Necton Gloucester" 11,423 . . . . .	304
65. Dux 2-furrow self-lift Plough . . . . .	202	99. Belted Galloway Bull, "Makerston Dan Dun" 52 (B) (D) . . . . .	304
66. Martin self-lift 3-furrow Plough . . . . .	203	100. Blue Grey Steer, "Kirtleton Bovril" . . . . .	305
67. Martin Spring-tine Cultivator . . . . .	204	101. Clydesdale Stallion, "Craigie Litigant" 19,071 . . . . .	305
68. Martin self-lift Spring-tine Harrow . . . . .	205	102. Draught Gelding, "Jim Scott" . . . . .	306
69. Morton self-lift 2-furrow Plough . . . . .	206	103. Clydesdale Filly, "Wells Mescal" . . . . .	306
70. Morton self-lift Cultivator, converted from Plough . . . . .	207		
71. Newlands self-lift Grubber . . . . .	208		
72. Newlands self-lift Cultivator . . . . .	209		
73. Newlands self-lift Brake Harrow . . . . .	210		
74. Sherwood rigid-tine Cultivator . . . . .	211		
75. Nicholson's self-lift Harrow . . . . .	212		
76. Ransomes self-lift 2-furrow Plough, RSLD-BP. . . . .	213		
77. Ransomes self-lift 3-furrow Plough, RSLM-YL . . . . .	214		

# ILLUSTRATIONS.

vii

FIG.	PAGE	FIG.	PAGE
104. Hunter Gelding, "Babe in the Woods" . . . . .	307	114. Half-bred Shearling Tup . . . . .	312
105. Hackney Brood Mare, "Creake Lady" 23,912 . . . . .	307	115. Oxford-Down Shearling Tup . . . . .	313
106. Pony Stallion, "Bricket Fusilier" 13,509 . . . . .	308	116. Suffolk Tup Lamb . . . . .	313
107. Highland Pony Stallion, "Glenbernsdale" 891 . . . . .	308	117. Shropshire Shearling Tup . . . . .	314
108. Western Island Pony Stallion, "Glenscorrodale" 838 . . . . .	309	118. Anglo-Nubian-Swiss Male Goat, "†Dochfour Onyx" 4665 . . . . .	314
109. Shetland Pony Mare, "Maydew of Penniwells" 3347 . . . . .	309	119. Large White Sow, "Dalmeny Meg" 58,844 . . . . .	315
110. Gelding in Harness, "Gondolier" . . . . .	310	120. Middle White Sow, "Histon Lady Holly 4th" . . . . .	315
111. Blackface Tup . . . . .	311	121. Berkshire Sow, "Meerbahn B" 22,389 . . . . .	316
112. Cheviot Tup, "Millknowe Victory" 3189 . . . . .	311	122. Large Black Boar, "Bywell Archer" 13,851 . . . . .	316
113. Border Leicester Shearling Ewe (125) . . . . .	312	123. Gloucestershire Old Spots Boar, "Woodstock Edwin" 3335 . . . . .	317
		124. Cumberland Sow, "Conceit" 1600 . . . . .	317





# TRANSACTIONS

OF

## THE HIGHLAND AND AGRICULTURAL SOCIETY OF SCOTLAND

---

### THE IMPORTANCE OF MINERAL MATTER IN NUTRITION.

By J. B. ORR, D.S.O., M.C., M.A., M.D., D.Sc., Rowett Research Institute,  
Aberdeen.

THE minerals in feeding-stuffs which have received most attention from agricultural investigators are those of known value as fertilisers. These have been studied with the view of ascertaining (1) the extent to which the land is deprived of them by the growth and removal of crops, and (2) the extent to which the land is enriched by the manure made by animals fed with the various feeding-stuffs. In accordance with this limited view of the importance of mineral matter in feeding-stuffs, tables of food values commonly used at the present day state only the "total ash," or if certain of the constituents of the ash are estimated, they are dealt with under the heading of "manurial values."

Comparatively little interest has been shown by agricultural scientists in this country in problems relating to mineral metabolism and the mineral requirements of farm animals. Nor have the stock-feeders paid much attention to the subject. As a rule the only mineral salt they consider necessary to add to the food is common salt, and that is added usually more with the idea of providing a tonic or stomachic than of supplying needed nutritive material.

The neglect of this aspect of nutrition has been due chiefly to the fact that it is known that all commonly used feeding-stuffs contain considerable amounts of "ash" or total mineral matter, and it has been assumed that, on any ordinary ration,

the needs of the animal for the various essential mineral constituents would be met. From the practical point of view, therefore, it did not look as if the difficult and laborious researches required to determine the needs of the various animals for the ten or twelve essential minerals, and the effects of excess or deficiency of them on health, would yield results of sufficient practical value to warrant the expenditure of time and money on the work.

The results of recent research, however, have attracted renewed attention to this aspect of nutrition. It is beginning to be recognised that many of the problems of nutrition bearing on the economical use of feeding-stuffs, and also on the incidence of disease, are intimately connected with the supply of mineral matter in the food. The subject is now of practical interest both to the stock-feeder and to the veterinarian.

In the present article, an attempt is made to give an idea of the importance of the functions performed by minerals in the animal body, of the extent to which farm animals are liable to suffer from deficiency of them, and of the evil effects of such deficiencies. Unfortunately, it is impossible to give more than a fragmentary account of any of these aspects of the subject, as our knowledge of this aspect of nutrition is still scanty and, in some particulars, uncertain.

### **THE RÔLE OF MINERALS IN NUTRITION.**

Proteins (albuminoids) may be regarded as the basal material of protoplasm or living matter, and proteins, carbohydrates, and fats as the sources of the energy and heat liberated in the activities of protoplasm. These three classes of substances are always present in animal tissues, and in the tissues of plants that serve as food for animals. Their importance has long been recognised. They have been termed the "proximate principles" of food, and in practice, in estimating the nutritive value of any substance, it is usually only these three constituents that are considered. They all consist of the elements carbon, hydrogen, and oxygen, with, in the case of the proteins, the addition of nitrogen. The compounds of these elements, which form the three classes of food constituents named, have been called "organic constituents," because they are only found in living organisms, or in substances derived from living organisms.

But in addition to these four elements, all living matter also contains calcium, sodium, potassium, magnesium, iron, phosphorus, sulphur, chlorine, iodine, and traces of other elements. When substances derived from living matter are burned, these remain and form the "ash." They are called

the "mineral" elements. Their oxides, such as lime, the oxide of calcium, and other compounds of them, as common salt, a compound of sodium and chlorine, are called the "inorganic constituents" of the body.

It requires to be emphasised that these so-called inorganic constituents of the body are as essential to life as the organic constituents. They stimulate and control, directly or indirectly, all the vital processes, and, consequently, they must be present in all living matter. Their fundamental importance in nutrition becomes evident, if we consider, as is done in the following paragraphs, the functions they perform in the body, and the disturbances that follow if these functions are interfered with through deficiency or excess of one or more of them.

### *The Necessity for a Proper Mineral Balance in the Body.*

Not only must every organism contain these essential constituents, but they must be present in the body fluids and active tissues in definite proportions to form a physiologically balanced salt solution. Two such balanced solutions are sea-water and blood. The interesting results of the experiments of Jacques Loëb show how in sea-water the necessary balance can be destroyed by the addition of an excess of one of the mineral elements. For example, the rhythmical swimming motion of a jelly-fish is stopped by the addition of relatively small quantities of a potassium salt or a calcium (lime) salt to the sea-water.

In the case of the blood of animals, the need for maintaining the proper balance is even greater, because the fluid is part of the living organism. Here, the first condition to be fulfilled is the maintenance of the balance of minerals, so that the fluid is kept practically neutral in reaction. Even a slight alteration of the balance produces pathological phenomena. Increased acidity, for example, as occurs in certain diseases, is followed by disturbances of the respiratory mechanism and of the nervous system.

Even though the neutrality be maintained, excess or deficiency of any of the mineral elements affects the vital processes. Thus, in connection with the beating of the heart, a deficiency of potassium prevents the heart muscle from relaxing properly, while an excess makes it relax so completely that it stops beating. Not only must the concentration of potassium be correct, but there must be a correct proportion between the potassium and the other minerals.

All the other vital activities, to an equal extent, are, either directly or indirectly, regulated by the degree of concentration of the different mineral elements in the tissues and fluids of the body. Even slightly abnormal relationships

between certain of the mineral elements, unless rectified, lead to disease and eventually death. The first requirement of life and health is therefore the maintenance in the blood and tissues, of the ten or twelve essential minerals, in the proper amounts and proportions.

It is remarkable how efficient the animal body is in maintaining this physiologically balanced salt solution in the tissues, even when the food contains mineral matter of a totally different composition. The kidneys have the selective power of promptly eliminating minerals which are present in the blood in excess. On the other hand, those which are deficient are conserved. For example, chlorine, which is necessary for digestion, can be poured into the stomach, perform its function of aiding digestion, and be reabsorbed from the intestine. It can thus be used over and over again with little loss.

The bones act as a storehouse for retaining minerals. Calcium (lime) and phosphorus, and probably other minerals, are brought out into circulation as required, and deposited again when the supply in the food is ample. The bones are thus not merely dead inert girdles. They are full of living cells which are always busy, either laying down calcium, phosphorus, and other minerals as hard solid material, or dissolving them and passing them back to the blood-stream again, according to the needs of the body. The function which the skeleton performs, in acting as a bank to regulate the supply of certain minerals to the fluids and soft tissues of the body, is almost as important as the more obvious function of providing a rigid framework. As will be seen later, when deficiency of calcium or phosphorus depletes the bank, the rigidity of the framework is sacrificed to meet the needs of the soft tissues.

The means by which the neutrality of the body fluid is maintained are of interest. Acids are formed from phosphorus, sulphur, and chlorine, and also from organic constituents in the course of changes taking place in the tissues. The acidity can be neutralised by alkaline minerals—calcium, sodium, &c. When there is not sufficient of these in the fluid to complete the neutralisation, ammonia is formed from breakdown products of protein. The ammonia acts as a powerful neutraliser of the acids, combining with them and carrying them off in the urine.

In addition to these gross methods of adjusting the mineral balance in the body, there are other finer adjusting processes in the fluids and tissues. These, however, need not be discussed here. Indeed, though they are known to be constantly in action, the biochemical reactions involved are very imperfectly understood.

These powers of internal regulation of the mineral content

of the body enable the animal to tide over periods of feeding in which the salts in the food are not adapted to the requirements of the animal. As a rule, it is only on a long-continued diet with a marked deficiency of one or more minerals that the reserves of these are exhausted. Under these conditions, the balance becomes so much upset that the regulating mechanisms break down, with disastrous results for the health of the animal.

### *The Functions of Minerals in Digestion.*

The necessity of mineral salts for digestion has been shown by experiments carried out on the dog. If food be given, free from mineral salts, the animal becomes unable to digest it. After it has lain in the stomach for some time, it is vomited unchanged.

The flow of digestive fluids into the stomach and intestines is controlled, in part at least, by the concentration of minerals in the contents of the gut. Thus, in the upper part of the small intestine, increased acidity stimulates the flow of the digestive fluid from the pancreas. The digestive processes are also affected by the acidity or alkalinity of the contents of the gut. For example, in the stomach the contents require to be acid to allow pepsin to act properly. To secure this, there is a secretion of hydrochloric acid into the stomach after meals. This is one of the chief functions of chlorine in the animal body. The ebb and flow of fluid between the lumen of the gut and the blood-stream is controlled by the concentration of mineral salts in the intestinal contents and in the membrane lining the intestines. An increased amount of mineral salts in the intestinal contents tends to cause a flow of fluid from the blood into the intestine, which in extreme cases may cause diarrhoea. It is upon this action of the salts that the laxative effect of salts given as medicine is due. The laxative effect of bran is due to a like cause—viz., the presence of magnesium salts in the bran. If these are removed, bran ceases to be laxative.

The absorption of the products of digestion is controlled by the concentration of salts in the intestinal contents. It has recently been shown also, that certain minerals appear to have an influence in preventing or allowing the passage of substances which set up disease if they reach the blood stream.

Even after the products of digestion have been absorbed and passed to the tissues, the utilisation of them depends upon the inorganic constituents of the blood and tissues. The oxygen required for the combustion of the organic constituents is carried from the lungs to the tissues by hæmoglobin—an iron compound. The carbon dioxide, a waste

product produced in the tissues, is carried to the lungs for excretion by sodium salts.

A consideration of these all-important functions of minerals in the digestion and utilisation of food, makes it easy to understand how conditions of malnutrition, referred to later, can arise when animals are fed over prolonged periods on food-stuffs either deficient in mineral matter, or with great excess of some and deficiency of others. It is not surprising that an animal fed on food free from minerals dies sooner than one in complete starvation, and that, while in the latter case death is peaceful and comparatively painless, in the former case it is attended by disturbances of the digestive system, convulsions, and distressing psychic symptoms.

### *Minerals as Constructive Material.*

In all animals there is a continuous loss of mineral matter in the excreta, and there must be a continuous supply in the food to make good this loss and maintain the proper level of the different minerals in the body. This amount has been termed the "maintenance requirement."

In growing animals, in addition to this maintenance requirement, minerals as constructive material must be supplied for the formation of bones and other tissues. Female animals supplying the building material needed for the growth of the bodies of their offspring obviously also require, as constructive material, a supply of minerals in their food. Hence growing animals, mothers suckling their young, and laying hens have a double need of minerals. As will appear later, these are the animals most liable to suffer from an inadequate supply.

### THE AMOUNTS OF MINERALS REQUIRED BY ANIMALS.

When the importance of the mineral elements in nutrition has been appreciated, the two practical questions that interest the stock-feeder are—

- (1) How much of the different essential minerals do the various farm animals need ?
- (2) How much do the different feeding-stuffs supply ?

Our information with regard to the first question is unfortunately scanty. The parts of the subject of most interest are the requirements for growth and for milk production. In both these cases, the most reliable figures are those derived from calculations based on the composition of the body of the animal or of the milk. There is very little experimental data available.

*Growth Requirements.*

The two minerals required in largest amounts for growth are calcium and phosphorus. About 75 per cent of the ash of bone consists of these in combination as calcium phosphate. In the ash of the whole body, above 80 per cent consists of the oxide of these two minerals—calcium oxide (lime) and phosphoric acid.

In a store pig, lime constitutes about 1 per cent of the body weight; in a bullock, about 2 per cent. The amounts of phosphoric acid are slightly less. Hence for every 100 lb. increase in live weight, the pig needs to build into its body 1 lb. of lime and about the same amount of phosphoric acid. The calf needs double these amounts. In other words, a pig putting on  $1\frac{1}{2}$  lb. weight per day must absorb from the intestine, and retain, quarter of an ounce of lime per day, and about an equal amount of phosphorus. A calf putting on the same weight needs double these amounts.

But usually, only about 50 per cent of the lime and phosphorus of the food can be absorbed and retained, so that the food should contain double the amounts needed as constructive material. The growing pig's daily ration should therefore contain about half an ounce of lime, and the calf's about an ounce.

Very little information is available with reference to the amounts of the other mineral elements required by growing animals. The best guide to the amounts and proportions required is found in the composition of the ash of the milk of the species. Bunge has pointed out that this is adapted to the requirements of the young animal. The following table shows the close correspondence between the composition of the ash of the milk of the mother and of the ash of the body, in the case of a rapidly growing animal :—

					Percentage composition of ash of	
					Rabbit	Rabbit's milk.
					14 days old.	
Potash	.	.	.	.	10·8	10·1
Soda	.	.	.	.	6·0	7·9
Lime	.	.	.	.	35·0	35·7
Magnesia	.	.	.	.	2·2	2·2
Iron oxide	.	.	.	.	0·23	0·08
Phosphoric acid	.	.	.	.	41·9	39·9
Chlorine	.	.	.	.	4·9	5·4

It will be seen from the table that milk is deficient in iron. To provide for this deficiency, the young are born with a reserve store of iron in their tissues to tide them over the sucking period.

The following table shows the approximate percentage composition of the ash of the milk of some species, and also



## 8 IMPORTANCE OF MINERAL MATTER IN NUTRITION.

the relationship that exists between rate of growth of the young of the species and the percentages of mineral matter and protein—*i.e.*, the constituents used as constructive material for new tissue formation :—

TABLE SHOWING RELATIONSHIP BETWEEN COMPOSITION OF MILK AND RATE OF GROWTH.

(Modification of table by Bunge.)

Species.	Time to double weight.	100 parts of milk contain					
	In days.	Protein.	Total ash.	Lime, CaO.	Phosphoric acid, P <sub>2</sub> O <sub>5</sub> .	Chlorine, Cl.	Iron oxide, Fe <sub>2</sub> O <sub>3</sub> .
Human .	180	1.6	0.2	0.03	0.04	0.03	0.0001
Horse .	60	2.0	0.4	0.12	0.12	0.03	0.0001
Cow .	47	3.5	0.7	0.17	0.20	0.10	0.0002
Pig .	10	7.2	1.1	0.41	0.35	0.12	0.0009

### Notes.

(1) Sodium, potassium, magnesium, and sulphur are omitted from the above table. Foodstuffs usually contain sufficient of these. They are therefore not of special interest in the present connection.

(2) In this paper calcium and phosphorus are given as lime (calcium oxide) and phosphoric acid in the tables and wherever amounts of these minerals are stated, because they are given as such in commonly-used tables showing the composition of feeding-stuffs. The term "lime," in preference to calcium, is used throughout this paper, because it is more familiar to the non-technical reader.

It is interesting to note that the percentages of protein and total ash in the various milks are related to the rate of growth. The faster the animal grows, the greater the demand for these constructive materials. In practice, it is found that the liability of animals to suffer from diseases of malnutrition due to lack of minerals is greatest in those that grow fastest.

Assuming that protein and the different minerals are required by the young growing animal in the same proportions after the sucking period as during it, the amounts of the different minerals required by them can be estimated from the composition of the milk. In the case of farm animals it can be calculated from the above table, that in the milk of the species named, for every pound of protein there is something like an ounce of lime and about the same amount of phosphoric acid. According to the Wolff-Lehmann tables, a young pig of 100 lb. weight needs half a pound of protein per day, and a calf of 500 lb. needs a pound. The former should therefore have about half an ounce, and the latter a full ounce, per day of each of these two mineral constituents. This corresponds with the estimates given above, based on the composition of the full-grown animal and the rate of growth.

While estimates based on these calculations serve as guides, giving approximate average requirements, it should be kept in view that animals vary in their requirements during the period of growth. The average over the whole period therefore might be an under-estimate for certain minerals for the early period, when growth is most vigorous, and an over-estimate in the later stages, when growth is slowing down. Individual animals and breeds also vary according to their rate of growth. A large amount of experimental work is required to determine the actual amounts and composition of mineral matter required for the different species at the various stages of growth.

At the Rowett Institute <sup>(1)</sup> a number of such experiments have been carried out on young pigs of the Large White Breed. The amount of lime and phosphoric acid was determined by analyses, in the food and in the excreta. The results for young pigs, weighing about 100 lb., were in accordance with these calculations. In these animals, which were at the stage when the daily increase in weight was about the average for the whole period of growth, about quarter an ounce of lime and rather more phosphoric acid were assimilated daily. But to get these amounts assimilated, about half an ounce of each had to be present in the food. Until the results of further experiments are available, therefore, it looks as if the composition of the mother's milk could be taken as a useful guide to the mineral requirements of young animals.

### *The Requirements of Dairy Cows.*

The lactating animal requires minerals for two purposes: (1) to meet the need for replacing the amounts lost in the "wear and tear" of her own tissues, and (2) for milk formation. The first need—the maintenance requirement—has not been accurately determined. Estimates have, however, been made by Continental workers. According to these, translated into English terms, a cow of average weight needs per day something like an ounce and a half of lime and about four-fifths of an ounce of phosphoric acid. The other mineral elements are required in smaller amounts, but the actual requirements are not even approximately known.

The amounts drawn off from the body in the milk can be calculated from the known average composition of the milk. A gallon of cows' milk contains roughly quarter of an ounce of lime, a third of an ounce of phosphoric acid, and a sixth of an ounce of chlorine. These are the three minerals most likely to be deficient in the food. In view of the fact that not more than half of the mineral matter in the food is usually

<sup>(1)</sup> This and subsequent figures in brackets refer to Bibliography at end of article.

In the wild state, herbivorous animals are not likely to suffer from deficiencies. They have a free range, and can choose their grazing according to their instincts, and so secure the mixed pasture necessary to yield an adequate supply. Under modern conditions the instincts of the animals have less play. When they are grazed on natural pasture, as in the case of sheep on hill grazing, the range is fixed, so that the migrations that would naturally have taken place are prohibited. In intensive stall-feeding, the food consists largely of commercial by-products and other concentrates derived chiefly from seeds. The mineral content of these is very different from that of a mixed pasture, which is the natural food of the animals.

In the following paragraphs, the results of mineral deficiencies on the different species of farm animals are dealt with, chiefly from the point of view of their economic importance.

### *Pigs.*

Potatoes and cereal products, such as maize, bran, and oats, which are all commonly fed to pigs, are deficient in lime. When fed on these, without the addition of lime-rich foods, pigs are liable to suffer from soft bones and general malnutrition. This condition, which is of the same nature as rickets, which occurs in children, was recognised and the cause determined nearly fifty years ago by investigators in Germany. In the maize-growing areas of the United States, great loss has been suffered from feeding pigs on maize without the addition of some other food to make good the mineral deficiency.

In Scotland, there is a well-known disease in pigs, in which the young animals about three or four months old develop a rough staring coat, a stilted gait, loss of appetite, and sometimes loss of power of the hind legs. In bad cases, fractures of the ribs and of the legs occur. The animals that grow fastest are most liable to the disease. Recent research at the Rowett Institute<sup>(2)</sup> has shown that this condition is closely allied to, if not identical with, rickets. It is due to the want of balance in the mineral matter of the food, and can be prevented by the addition to the food of a mixture of inorganic salts, which makes the mineral composition of the whole ration somewhat similar to that of sows' milk. Green food, milk, and fish-meal all supply the minerals usually lacking, and so help to prevent the disease. If the animals are allowed freedom, they usually find in pasture or in the soil the minerals lacking in their diet.

It will be understood, of course, that every pig "off its legs" is not necessarily suffering from lack of minerals. The

pig is, unfortunately, subject to many diseases that put it "off its legs."

Pigs do not commonly suffer from lack of phosphorus, as in most cases their food consists partly of cereal products, which are rich in this constituent. Experiments have been conducted, however, which show that, when phosphorus is lacking, stoppage of growth and paralysis of the hind legs soon occur. The condition can be cured in a few days by the addition of inorganic phosphorus to the food.

The rapidly growing pig requires considerable quantities of iron. In addition to a reserve store which it possesses at birth, it receives a more generous supply in the milk than most animals. The percentage of iron in the milk may be modified by the food of the nursing mother. It is probable also that the store of iron at birth may be affected by the feeding of the mother during pregnancy. As sows are often fed on food with very little iron, there is the probability of sucking pigs suffering from lack of this essential mineral.

This has been investigated at the Rowett Institute. M'Gowan and Crichton fed breeding sows on distillery draff, maize, and small quantities of fish-meal made from the bones and adherent flesh of white fish. This ration supplied sufficient lime and phosphorus, and probably also all the other minerals needed except iron. The litters were born apparently healthy, but after the third or fourth week malnutrition was evident. The animals were breathless on exertion, and there were a number of sudden deaths. Post-mortem examination showed that the hearts were enormously enlarged. The blood was thin and watery, and the hæmoglobin—the iron-containing part of the blood—was in some cases only 15 per cent of the normal. Other sows were fed the same ration with the addition of iron oxide. The litters from these were perfectly healthy.

Further investigations are being carried out by these workers. Even from these preliminary experiments, however, it looks as if shortage of iron might be the unrecognised cause of many cases of malnutrition occurring in pig-feeding. It is interesting, in this connection, to note that cotton-seed meal has been found to produce in pigs a disease characterised by breathlessness, loss of appetite, and coarse hair, and that the addition of iron to the food prevents the disease.

Some recent work done in America by Smith and others<sup>(3)</sup> shows that iodine, though required only in small amounts, is of as great importance for health as lime or phosphorus. In Montana and certain other regions in the United States, and in some parts of Western Canada, great loss has been caused through sows giving birth to young pigs not fully developed. These were either dead at birth, or lived only a short time. The most obvious abnormality was absence of

hair. An examination of the food from affected and unaffected districts showed that the foodstuffs grown in the affected districts contained, on an average, less iodine than those grown in districts where the disease did not occur. The effect of adding iodine to the food was tried, and it was found that the addition of five grains of potassium iodide per day to the ration of each sow, for the last four or five weeks of the gestation period, led to the production of healthy litters from sows that previously had all had immature pigs. The amount of iodine required for the pig is unknown, so that it is impossible to say whether the disease was due to deficiency of iodine or to abnormality of the thyroid gland. The essential fact, however, is that addition of iodine to the food can prevent the disease.

The well-known beneficial effect of feeding ashes to pigs is due to the fact that the ashes contain minerals often deficient in their food. Wood ashes may contain as much as 50 per cent of lime, and coal ashes as much as 5 per cent of iron. The rooting habit of the pig and also its liking for grubbing in the manure-pit are doubtless associated with its need for mineral matter. The dung of herbivora contains most of the mineral matter of the fodder, and is therefore rich in lime and iron. The well-recognised beneficial effects on the health of pigs of allowing them a free range over pasture is largely due to the fact that the animals have liberty to supplement the mineral deficiencies of their food.

### *Cattle.*

Growing cattle are not so likely to suffer from deficiency of minerals as pigs. If they are grazing, mixed pasture gives a good supply. In indoor feeding, hay and some grain or other concentrates are usually fed. The former, if it contains clover, is rich in lime and iron, the latter is rich in phosphorus. In intensive feeding, however, where a generous ration of concentrates, rich in flesh- and fat-forming material, is given, and where, consequently, there is rapid growth, the bones may remain weak through deficiency of lime, unless care is taken to adjust the ration by the addition of a lime-rich foodstuff such as silage or clover hay.

It is very probable that calves weaned early in many cases suffer from lack of sufficient mineral matter. They are often fed on slops made with meals derived from the cereals, which are too rich in phosphorus and too poor in lime. Linseed meal, which has been found to be excellent for young cattle, is especially rich in lime and iron, to which doubtless its excellency is largely due. There is, of course, no food on which calves will thrive so well as on cows' milk, which contains all the minerals in the amounts and proportions required

for growth. The mineral most likely to be deficient in calves' food is lime, and Kellner recommends that calves should get an extra supply of lime even when receiving milk.

It is surprising how little attention has been given to the mineral requirements of the dairy cow. This is probably the most important of all the problems in animal nutrition, and one of the most difficult. It is an easy matter to calculate from the milk-yield and the known composition of milk the amount of the different minerals drawn from the cow per day, and to calculate the supply in the food. If, as is often done, the bulky food such as hay, straw, and turnips be regarded as the maintenance ration, and the concentrates, *i.e.*, cakes, grains, &c., be regarded as the milk-producing ration, and fed to the animals in accordance with the yield, then the mineral composition of the concentrates should bear some relation to the mineral composition of the milk. In reality, most concentrates show an excess of some minerals and a deficiency of others. Lime is especially lacking. In cases of low milk yield the deficiency is not so serious, especially if hay or silage be fed, because these contain more lime than is necessary for maintenance, so that some is available for milk production. The higher the yield, the greater is the disparity between the supply in the food and the demand for the milk, and the greater is the drain upon the cow's skeleton to keep up the supply in the milk. In the spring, when the animals are put out to grass, they receive in the pasture an abundant supply of the minerals which are usually deficient in the winter food. They are thus able, to some extent, to replenish the depleted reservoir in the skeleton.

The part of this subject that has received most attention in practice is the influence of common salt (sodium chloride) on the health of the cows. The liking of ruminants for common salt has long been recognised, and the "salt lick" is frequently provided for cows, with the idea that it whets the appetite and aids digestion. Experiments carried out at Wisconsin Experimental Station, U.S.A., in 1905 (<sup>4</sup>), showed that the beneficial effects are due to the supply of chlorine in the salt, and that the animals that suffer first when deprived of chlorine are the heavy milkers—*i.e.*, those requiring most chlorine to keep up the supply in the milk. In these experiments, the signs of malnutrition appeared, in some cases within a month, and in other cases not until almost a year after privation of salt. When the breakdown occurred, there was a sharp fall in the milk-yield, loss of body weight, poor appetite, and a "generally haggard appearance," with lustreless eyes and a rough coat. A rapid recovery followed when chlorine was supplied, either as sodium chloride (common salt) or as potassium chloride.

Comparatively little experimental work has been done to

determine the effect upon health and milk-yield of the lack of other minerals. But a number of observations have been recorded of cases of malnutrition occurring in practice and attributable to this cause. Some of these are instructive.

In Bihar in India, according to Davis (<sup>5</sup>), the native cattle have a very low milk-yield, 3 to 5 seers, compared with 15 to 20 seers in certain other parts of India. The low yield is not entirely due to the breed, because the yield of good milking cows from other districts decreases to nearly the same low level after being brought into Bihar. The crops raised in this State are very poor in phosphorus, owing to the low phosphorus content of the soil, some samples of which have only about 1 per cent of the amount present in certain fertile areas in Europe. A gallon of milk contains about a third of an ounce of phosphoric acid. On a diet so deficient in phosphorus, therefore, it is not to be wondered at that the milk flow is at a low level.

In 'Wood's Therapeutics' (<sup>6</sup>) a case is recorded of a herd of cows which, after being fed for a long time on hay from a certain meadow, suffered from ill-health and soft bones. An examination of the hay showed that it was markedly deficient in mineral matter. Bone meal was fed, and in about a month the animals recovered their health.

Forbes, of the Ohio Experimental Station, U.S.A. (<sup>7</sup>), has collected evidence which shows that failure to breed is more common in dairy cows than in beef cows, and among the former, the heavy milkers with long lactation periods are especially liable to sterility. It looks as if, in those cows, the drain from the tissues of the body, of the minerals required for milk production, reduces the animal to a state of low vitality in which reproduction is impossible. Unfortunately, there are no definite figures available on this subject. Statistics showing the relative frequency of sterility in the following contrasted cases would be instructive: (1) heavy milkers *versus* light milkers fed on the same kind of food, and (2) cows grazed in summer on good mixed pasture, and fed in winter chiefly on silage and mixed clover hay, *versus* cows on some such ration as straw, turnips, and distillery grain, which, compared with the former ration, is markedly deficient in lime.

The writer has for some time been endeavouring to get information with regard to the correlation between the incidence of tuberculosis and (a) milk yield, and (b) the mineral content of the diet. The necessary information is difficult to get, as, unfortunately, on many dairy farms with recorded milk yields tuberculin tests are not carried out; and further, the information available is for the most part of an indefinite nature, and not entirely trustworthy. So far, however, the available information seems to indicate that the milk yield

and nature of the food affect the susceptibility of the cows to tuberculosis, and are as important factors in the incidence of the disease as the nature of the housing.

The heavy milking cows seem to be definitely more susceptible to tuberculosis than those with a low yield. At Lord Astor's model dairy farm at Cliveden, where invaluable scientific data is being accumulated, the records seem to indicate that there is a definite correlation between milk yield and reaction to the tuberculin test.

The information with regard to the influence of the diet, though scanty and lacking in precision, seems to indicate that cows fed on ill-balanced rations, consisting mainly of distillery grains, meals, and cakes rich in protein (albuminoids), which stimulate the flow of milk, and poor in certain minerals required for the milk, succumb earlier to the disease than those with a good mixed ration containing feeding-stuffs rich in well-balanced minerals such as silage, clover hay, and fish-meal.

The prevalence of tuberculosis in dairy cows causes such heavy loss to the farmer, and is such a danger to the public health, that every possible factor that affects the susceptibility of the animal to the disease should be investigated. Though the evidence presented here is totally inadequate to support even a definite opinion with regard to the influence of deficiency of mineral matter on the susceptibility to the disease, it is sufficiently suggestive to warrant mention. If more interest were taken in the dietary aspect of this problem, observations might be made by the many highly-skilled practical experts who now conduct the dairy industry, and information accumulated which might ultimately be of practical value.

### *The Horse.*

The mineral requirements of the horse have received even less attention than those of the cow. But there is a certain amount of well-established information that shows the importance of mineral matter in the diet of the horse. There seems to be a consensus of opinion that certain districts are specially suitable for rearing horses of good bone, and that in those districts the soil, and consequently the pasture and fodders grown on the soil, are rich in lime and in phosphorus, the two minerals needed in largest amounts for bone formation.

There is definite evidence to show that diseases, chiefly affecting the bones, are produced by foodstuffs with excess or deficiency of certain minerals. "Bran rickets" or "miller's bone disease" is caused by feeding excessive amounts of bran, which contains an enormous excess of phosphorus and very little lime. Ingle<sup>(6)</sup> has shown that in South Africa a somewhat similar disease occurs in horses in certain districts



where the pasture and fodder crops have a great excess of phosphorus and a deficiency of lime. On the other hand, deficiency of phosphorus in the feeding-stuffs, as occurs in Bihar in India and in certain other regions, leads to a disease characterised by loss of co-ordination and of muscular power in the hind limbs and to porosity of the bones. This disease is probably the same as that referred to above as being produced experimentally in pigs on a phosphorus-deficient diet.

In street horses, affections of the bones of the legs are much more common than in farm horses. It has been perhaps too hastily assumed that the hard nature of the road and strenuous work are alone responsible for the lesions in the bones in the former case. From the known requirements of the animal, one would expect that the food should contain lime and phosphoric acid in about equal amounts. But the street horse is usually fed on foodstuffs with a large excess of the latter. Oats, the best balanced of all the grains, has about six times as much phosphoric acid as lime. Bran has over thirty times as much. Further, the street horse is often kept on the same ration for long periods. The continual excess of certain minerals and deficiency of others is bound eventually to affect the texture and the composition of the bones, rendering them softer and more liable to injury.

The farm horse, on the other hand, receives usually a greater variety of feeding-stuffs. For the great part of the year, also, it gets a certain amount of grazing, and the minerals of the pasture supply what is liable to be deficient in stall feeding. It not infrequently happens that a street horse in bad condition, when put upon a farm, shows after a few months a marked improvement in its limbs. The improvement is probably due as much to the change in the diet as to the change in other conditions.

The quality of the bone affects to a great extent the value of the horse. It has been shown by carefully conducted experiments that in the case of the pig the hardness and density of the bone can be markedly increased by modifying the mineral content of the food by the addition of inorganic salts. There is no difficulty in getting the horse to eat mineral salts incorporated with its food. It would be worth while investigating to what extent the bone of the horse could be influenced in this way.

### *Sheep.*

There is very little exact information with regard to the extent to which sheep under practical conditions suffer from deficiency of minerals. Though the requirements for most of the different minerals have been determined by experiments, we have little information about the supply of minerals in the food. Sheep are grazed very largely on natural pastures,

the mineral composition of which is unknown. Several experiments with hand-fed sheep have been done, however, which show that the mineral content of the food is of great importance. Some of these may be referred to.

Sheep require considerable quantities of chlorine. It is most probably this need for chlorine that causes the liking for common salt (sodium chloride). In an experiment carried out in France (\*) the beneficial effect of supplying salt to hand-fed sheep was shown. Sheep which received half an ounce of salt per head daily made greater increases in weight, and had heavier and better fleeces than sheep on the same ration without salt.

In an experiment carried out by Captain Elliot at Lanark in the winter of 1921-1922, it was found that on a ration of hay, swedes, oats, distillery grains and linseed cake with cod-liver oil, the addition of a lime-rich mineral salt resulted in about 20 per cent greater gain in weight than in control animals receiving no additional mineral matter.

A most striking example of the way in which mineral matter affects the health of sheep occurred in Michigan, U.S.A. In that State the sheep-rearing industry suffered heavy losses by the prevalence of goitre. With the discovery of the salt deposits round the Great Lakes, and the use of this salt for sheep, the incidence of the disease rapidly decreased. It is most probable that the prevention of the disease was due to iodine which is in the salts.

The results of an experiment with breeding ewes carried out in the winter of 1921-1922 at the Rowett Institute show that excess of certain minerals may have evil effects. Two groups, each of twenty ewes, were penned in, on about half an acre of pasture, and fed on straw, hay, swedes, oats, and bran. One group received, in addition to the ration, eight grams (nearly a third of an ounce) of a soluble lime salt (calcium chloride) per head, per day, during the whole gestation period. In this group only six living lambs were got from the twenty ewes, compared with twenty-one in the other group receiving no lime salts. The lambs in the salt group were, however, on an average, about 12 per cent heavier at birth. It is probable that the excess of calcium chloride had irritated the uterus, causing it to contract irregularly, as a number of the ewes aborted, and there were many cases of malpresentation at birth.

The cases quoted here show that, in the sheep, the mineral content of the food may have a profound influence on the health, rate of growth, quality of fleece, and fecundity. Unfortunately, the exact influence which excess or deficiency of individual minerals may have has not been studied, nor have we any definite information with regard to the mineral composition of natural pastures, which form so large a part of

the diet of sheep. We do know, however, that the composition of the soil is reflected in the mineral composition of the plants grown on it. In the natural state, the sheep was free to wander over wide areas with different geological formations, and could follow its instincts in the choosing of its feeding ground, so that deficiencies in pastures in one area might be made good in subsequent grazing in another area. Under modern conditions, where sheep are confined in limited ranges, it is quite possible that in some districts they suffer from excess or deficiency of one or more minerals to an extent that affects the rate of growth of the animal, the quality of the fleece, and also the health.

The idea of the composition of the soil having an influence on the nutrition of the sheep is by no means new. Brown in his work, 'British Sheep Farming,' 1870, puts forward the suggestion that the character of the soil has been an important factor in the evolution of the different breeds of sheep, and several workers have traced a connection between the character of the soil and the quality of the fleece.

### *Poultry.*

The need of laying-hens for an abundant supply of lime for formation of egg-shell has long been recognised. Oyster-shell, or some other source of lime, is supplied to laying-birds by all intelligent poultry-keepers.

It is interesting in this connection to note that the laying of shell-less eggs is due to some cause other than lime deficiency. The shell is absolutely essential for the development of the chick, because it supplies lime for bone formation. Though the supply in the food is inadequate, so long as the hen continues to lay she will, if necessary, deplete her own bones of lime to provide for the shell; though in deficiency of lime, the supply may be conserved by the shell being formed thinner than usual.

But the bones are not an inexhaustible reservoir, and ultimately the rate of egg-production must slow down to the level at which the food can supply the necessary material. When there is insufficient lime in the food, therefore, egg-production is less than when an ample supply is present. This is well shown by experiments conducted in 1919 at Kentucky Experimental Station, U.S.A. (<sup>10</sup>). Hens were fed in different groups with no access to the ground. The diet consisted of maize-meal, bran, middlings, meat, and charcoal as mash, and for grain, maize, wheat, and oats. Two groups were given each oyster-shell or limestone. The egg-production in these two groups was, on an average, 69·4 per cent greater than in the groups receiving no extra mineral matter.

Though lime is the mineral most likely to be deficient in

poultry foods, phosphorus, chlorine, and, on certain rations, other minerals may be lacking in sufficient amounts, and the rate of growth, egg-laying, and hatchability of eggs thereby affected. At the Ohio Experimental Station (<sup>11</sup>) some recent tests showed that even when oyster-shell, grit, and green food in the form of sprouted oats, were supplied in unlimited amounts, the addition of a mineral mixture consisting of three parts bone phosphate to one of common salt and one of chalk increased the value of the ration for growth and egg-production by more than 40 per cent.

Reference has been made to the value of iodine for the prevention of certain conditions of malnutrition in pigs and sheep. It has also an influence on poultry. The results of experiments at Wisconsin (<sup>12</sup>) seem to indicate that the addition of iodine to the food helps to prevent the laying of soft-shelled eggs. It is very probable that iodine has some controlling influence on the metabolism of lime salts in the body. Oyster-shell contains some iodine. This may account for its superiority over lime as a source of mineral supply for poultry.

It is obvious that attention to the mineral content of the food of poultry would be repaid by increased profits to the poultry-keeper.

### THE MINERAL CONTENT OF PASTURES.

An important feature of the problem of securing an adequate supply of minerals in foodstuffs is the variability of the composition of plants. Vegetation to some extent reflects in its mineral composition the character of the soil on which it is grown. The part that varies least is the seed. But even in it, the amount of phosphorus present may show variations of 20 per cent. In the leaves, the variation is much greater. Buckner (<sup>13</sup>) in 1919 analysed two samples of crab grass (*Digitaria sanguinalis*), one grown in a garden and one in a limestone roadway. Though there was no observable difference in the external appearance, the sample from the limestone roadway contained 44 per cent more lime and 22.7 per cent more phosphorus than the one from the garden.

Many cases of malnutrition in animals due to mineral deficiency of pastures have been recorded. Reference has already been made to the low milk-yield of the cows in Bihar, where the soil has an abnormally low content of phosphorus. In the Hawaiian Islands, where the soil is of volcanic origin with very little lime, cattle have a slow rate of growth, and the cows yield very little milk. The feeding of bone-flour or other lime-rich foods improves the condition of the animals, and enables stock-rearing to be conducted with profit.

In certain parts of Australia the natural vegetation is poor in phosphorus, and the characteristic bone lesions and paralysis associated with deficiency of this mineral are common. Milk cows and growing stock are worst affected. Murphy<sup>(14)</sup> gives an account of the impossibility of keeping cattle in good condition in certain districts after the land was fenced and the areas on which the animals could graze restricted. When, however, the soil was fertilised with the deficient minerals, the live stock could be maintained in good condition. Several somewhat similar cases of malnutrition in animals due to deficiency of mineral matter in the pasture are recorded in the older German literature.

These examples serve to emphasise the importance of the mineral composition of pastures. There appears to be a casual relationship between the composition of the ash of pastures and their feeding value. Thus an admixture of clover improves pasture, because it increases the amount of lime. Clover contains four times as much lime as phosphoric acid. On the other hand, cattle will not thrive on a purely clover diet, because the amount of lime is too high compared with phosphorus. It is almost certain that within the next few years it will be demonstrated that the best pasture is that whose mineral content is balanced to suit the animals grazing it, and that the mineral matter of the crop to be grown should receive as much consideration as the bulk of the crop.

The view put forward here, that the composition of the mineral matter of pasture is an important factor in determining its value, receives confirmation from some recent work done in connection with the nutrition value of the different constituents of foodstuffs.

It has been proved by feeding experiments that concentrates rich in protein derived from animal sources are more valuable than concentrates rich in protein derived from vegetable sources. The superiority of the former has been attributed entirely to the better quality of the animal protein. Recently, however, experiments<sup>(11)</sup> carried out in the United States have shown that the inferiority of certain vegetable proteins at least, is not so much due to the quality of the proteins as to the fact that they are associated with a deficiency of essential minerals. For example, maize supplemented with soya-bean meal plus a mineral mixture, gave as good results with growing chickens as maize supplemented with an equal amount of protein from meat scraps or from butter-milk. In other experiments carried out in the Rowett Institute<sup>(15)</sup>, it has been shown that when either fish-meal or blood-meal was added to a mixed grain ration for pigs, the animals getting the fish-meal made greater gains in weight and kept in better health than those getting the blood-meal. When, however,

the ration with the blood-meal was supplemented with a mineral mixture to make it resemble the mineral-rich fish-meal, growth and health were as good as when fish-meal was fed. It was concluded that the superiority of fish-meal as compared with blood-meal is due to the mineral matter it contains.

Remarkable results in nutrition have been attributed to vitamins. Recent experiments carried out at the Rowett Institute have shown that similar results can in many instances, in the pig at least, be obtained by the addition of minerals to the food. It has been found that the more closely the mineral composition of the food is adjusted to the requirements of the animal, the less is the influence of vitamin-rich substances on health and rate of growth. In some cases, the beneficial results attributed to a vitamin have in reality been due to the mineral matter in the foodstuff supposed to be rich in that vitamin. For example, much of the value of green food, which has been thought to be chiefly due to its wealth of vitamins, is due to the fact that the minerals present make good the deficiencies of grain and other concentrates. The writer has dealt with this subject in some detail in another publication <sup>(16)</sup>.

It must not be assumed, however, that all proteins are of equal value, or that vitamins are non-existent. Animal proteins are, in certain combinations, of more value by reason of their quality or composition than vegetable proteins, and there are in foodstuffs unidentified substances or properties that have a profound influence on health and rate of growth. But much confusion has been caused by workers who failed to appreciate the importance of the mineral matter in the foodstuffs, and attributed to hypothetical vitamins beneficial results that in reality were due to mineral constituents of the food given as a source of the vitamins.

#### MINERAL DEFICIENCY AND DISEASE.

Reference has been made in the foregoing paragraphs to conditions of malnutrition resulting from lack of essential minerals in the food. Ill-health due to this cause is, without doubt, exceedingly common. It varies in degree from a hardly noticeable lack of the "bloom" which is characteristic of an animal in proper health, to a state like rickets, with gross signs so obvious that it can be termed a disease.

A frequent accompaniment of this form of malnutrition is a depraved appetite, which causes the animal to chew and eat various objects. Thus hens pick each others' feathers; sheep chew and swallow wool. This craving is most probably

due to an instinctive attempt on the part of the animal to make good a mineral deficiency in its body, and is of the same nature as the salt hunger of herbivora and the rooting habit of the pig. The writer has observed that pigs on an experimental ration, with insufficient lime, frequently acquire the habit of drinking each other's urine, and when liberated make at once for some lime-rich substance, such as coal, ashes, or the dung of herbivora.

An interesting example of this symptom, which is known as "Pica," occurs in Lamziekte, a disease which was very prevalent in South Africa. The cattle develop the disease from pathogenic organisms, which they get from chewing putrefying carcasses. It has been found that the abnormal craving is caused by a lack of phosphorus, owing to the low phosphorus content of the pastures in the districts in which the disease occurs. When bone-meal or any other phosphorus-rich substance is supplied to the animal, the craving for bones disappears.

An important aspect of this part of the subject is the influence of the feeding of the mother on the health and vitality of the offspring. Researches carried out in America in 1921<sup>(17)</sup> have shown that in rats, on a diet deficient in lime, the percentage of fertility at mating was reduced from the normal of 65 per cent to 31 per cent. Somewhat similar results have been recorded in the case of cattle and pigs. It has been noted that deficiency of lime during the gestation period may be followed by the birth of either a dead calf or a weakling. The same sequence of events occurs in brood sows. The effect of the lack of iodine in the diet of the sow on the litter has already been discussed.

During the lactation period, the mineral content of the food of the mother is hardly less important. It has been too readily assumed, from the results of short period experiments, that the composition of the ash of milk is unaffected by the nature of feeding. It has been recently shown that the milk of cows fed on pasture has, for growing animals, health-preserving properties to an extent not shown by the milk of stall-fed animals receiving no green food. American workers in 1920 carried out certain experiments<sup>(18)</sup> that showed that the composition of the ash of the milk is different in the two cases. The four minerals most likely to be deficient are lime, phosphorus, chlorine, and iron. The following table gives the percentage of these four in pasture-fed cows and in cows fed on meals, beet-pulp, molasses, and straw.

	Pastures.	Meals, straws, &c.
Lime . . . . .	0.165	0.138
Phosphoric acid . . . . .	0.190	0.158
Chlorine . . . . .	0.097	0.054
Iron . . . . .	0.0002	0.0001

An understandable reason for the superiority of milk of pasture-fed cows is thus afforded. The milk yields larger quantities of those minerals most liable to be deficient in the food of growing animals.

The influence which long-continued deficiency of mineral matter in the food may have upon the incidence of disease, due to microbic infection, is well worthy of consideration. We know that the alimentary canal is swarming with pathogenic organisms which, if allowed to pass through to the blood stream, cause disease. We know also that the concentration of salts in the intestines determines the ebb and flow of fluid between the contents of the intestines and the blood, and that lime salts control the permeability of the wall of the intestines with regard to certain substances, including, possibly, invading infective agents. It is very probable that a long-continued wrong balance of minerals in the food, or a sudden change in the mineral content of the intestines, brought about by a sharp change of diet, may produce such a condition that infective organisms, normally kept from entering the blood stream, are allowed to pass through and produce acute disease.

Another aspect of the problem of the prevention of diseases, due to pathogenic organisms, is the resisting power of the animal. There is nothing more striking in the recorded results of experiments in connection with deficiency diseases than the frequency with which the animals on the deficient diets suffer from infectious diseases—*e.g.*, pneumonia, infective sores, inflammation of the eyes, and in some cases tuberculosis. The body in perfect health has powers of resisting these diseases. In conditions of malnutrition, however, the vitality is lowered, and the resistance to infection decreased. It seems possible that the best defence against many of these infectious diseases is a perfect state of nutrition, and the most frequent dietary cause of malnutrition of farm animals, so far as our present knowledge is available, appears to be connected with the mineral matter of the food.

The practical problems of nutrition are more and more tending to be connected with the problems of disease, and it is probably from the joint efforts of the nutritionalist and the clinician that the greatest advances in connection with the prevention of disease will be made.

#### NEED FOR FURTHER RESEARCH.

The foregoing paragraphs have served to reveal our ignorance of the subject of the mineral aspect of nutrition, rather than to give exact information. From what we do know, however, it appears certain that excess or deficiency of cer-



tain minerals in the food may have a profound influence on the health of the animal. But we do not yet know with certainty what constitutes excess or deficiency. Further experiments must be conducted to determine the amounts of each essential mineral required by the various farm animals, and the influence on nutrition of excess or deficiency. More information is required also regarding the mineral composition of feeding-stuffs.

Even when this information is available, other and even more difficult problems remain to be solved. Minerals may be present in the food, but in a form that cannot be absorbed. Forbes has shown that lime may be present in the food of the dairy cow in ample amounts, and yet the animal may continue to lose lime from its tissues. Assimilation is affected by other constituents of the diet. Thus, cod-liver oil influences the percentage assimilation of both lime and phosphorus, as does also the ratio of these minerals to each other, the degree of acidity of the ration, and most probably other factors not yet recognised. Hence the provision of sufficient mineral matter in the food is only part of the problem. The other part of the problem is to secure that the whole ration is so balanced that sufficient mineral matter will be assimilated. This involves years of laborious work on the part of physiologists, biochemists, and pathologists, and also of practical experts, who frequently have knowledge which is invaluable as a guide to investigators.

#### THE VALUE OF SALT MIXTURES.

During the last two or three years various salt mixtures have been advocated and some put on the market. It must be obvious to the intelligent reader that though these may do good in some cases, they do not solve all the difficulties of an adequate mineral supply. In some cases, indeed, they may do harm. For example, a salt mixture rich in phosphorus would show excellent results if added to a ration poor in phosphorus, but would do harm if added to one with a surplus of phosphorus. Salt mixtures intended to be used in a routine way with all the different kinds of rations likely to be fed are quack remedies of doubtful value. There is no short cut to the perfect feeding of animals. The feeder must know the requirements of his animals, and the extent to which different feeding-stuffs will meet their requirements, and then arrange rations accordingly. The research worker may ultimately be able to supply him with the necessary technical information to do this. But he will never be able to supply him with a salt mixture that will relieve him of the necessity for making his own calculations, and coming to his

own decisions as to what is best for the animal in each case. Indeed, that is where the skill and experience of the feeder comes into play.

*Note.*—The author wishes to acknowledge his indebtedness to Miss Helen Scherbatoff for assistance in drawing up the tables in the paper and for arranging and verifying the list of references.

#### BIBLIOGRAPHY.

1. Orr and Husband, 'Scottish J. of Agric.' v. p. 224.
2. Elliot, Orr, and Crichton, 'British J. Expt. Path.', iii. p. 10.
3. Smith, J. Ennis, 'J. Biol. Chem.', 1917, 29, p. 215.
4. Babcock and Carlyle, 'Wisconsin Expt. Sta. Rpt.', 1905.
5. Davis, 'Agr. J. of India,' xxii. p. 77; cited by Elliot, D.Sc. Thesis, Glasgow, 1922.
6. Cited from Forbes, 'Ohio Expt. Sta., Bulletin 201,' p. 149.
7. Forbes, E. B., *et al.*, 'Ohio Expt. Sta., Bul. 330,' 1918, p. 115.
8. Ingle, Herbert, 'J. Agr. Science,' 1908-09-10, iii. pp. 22-31.
9. Cited by Henry and Morrison in 'Feeds and Feeding,' 17th edition, p. 517.
10. Buckner, G. Davis, and Martin, J. H., 'J. Biol. Chem.,' 1920, 41, pp. 195-203.
11. Kennard, D. C., and White, P. S., 'Ohio Agric. Expt. Sta., Monthly Bul.,' vol. vii. (1922), pp. 171-179.
12. Halpin, J. G., and Hart, E. B., 'Wisconsin Sta., Bul. 302' (1919), pp. 52, 53.
13. Buckner, 'J. Amer. Chem. Soc.,' vol. 41, p. 1384.
14. Murphy, E. W., 'J. Dept. of Agr., Victoria,' xv., Part 8, 10th August 1917; cited 'Ohio Expt. Sta., Bul. 330,' p. 113.
15. Orr and Crichton, 'Scottish J. of Agric.,' v. p. 146.
16. Report of Rowett Institute, 1922, p. 56 *et seq.*
17. Reynolds and Macomber, 'J. Amer. Med. Assoc.,' vol. 77, p. 169.
18. Hess, A. F., Unger, L. J., and Supplee, G. C., 'J. Biol. Chem.,' 1920-1921, 45, pp. 229-235.

## VALUE OF ENSILAGE.

### VIEWS OF USERS IN SCOTLAND.

By DAVID M'CULLOCH, Aberdeen.

IN Scotland the use of ensilage is making steady progress. Most of those who have adopted the system within recent years have had erected silos of reinforced concrete. Apart from the question of cost, these silos, when properly managed, have given entire satisfaction. They have upset the theory that silage keeps best in timber erections, or in stacks and clamps. Users state that the concrete silos defy the detrimental effects of sun, rain, wind, and frost. They are proof against the depredations of rats and vermin of all kinds. These silos are regarded as an excellent investment, because they are practically everlasting, and require no outlays for upkeep. It has been conclusively proved that the acids or juices which develop during the curing of the crop have no effect on the concrete. Waste is reduced to a minimum compared with that experienced in stacks, clamps, or wooden buildings. The silage is fresh and wholesome.

Messrs James Scott & Son (Aberdeen), Ltd., have supplied the following table, which will assist agriculturists to determine the size of a silo that would meet varied requirements.

Size of Silo.	Capacity in Cubic Feet.	Capacity in Cwts. per Cubic Feet.	Total Capacity in Tons.	Feeding Capacity for Cattle for six months at 50 lbs. per day.
14' x 36'	5,544	·46	127	32
14' x 40'	6,160	·48	148	37
16' x 36'	7,236	·5	180	45
16' x 40'	8,040	·51	205	51
18' x 36'	9,144	·53	242	60
18' x 40'	10,160	·55	280	70
18' x 50'	12,700	·6	380	95

Silos can be made to any desired size in diameter, and built up to any height.

The general consensus of opinion is that silos are profit-paying investments, particularly on stiff clay land, and, indeed, on all farms where it is difficult to secure each year a

full crop of roots. Almost any fodder can be converted into silage, but users readily find out what green crop is most suited for the land and fits in best with the rotation of the farm. On heavy soils a mixture of beans, tares, peas, and oats, with variations, makes the most successful and palatable silage.

The views of users of ensilage in different parts of Scotland reflect the unbounded advantage of the system for feeding. Practically all classes of stock, including breeding animals, thrive remarkably well on silage. With the increased use of silage, it is certain that the costly and uncertain crop of roots will be greatly reduced. Mr Philip, Dandaleith, states that he has already reduced the turnip area by 26 per cent. There is testimony as to the value of silage for milch cows, for lean stock, and for fattening beasts. More live stock can be kept on a given acreage, and there is a bountiful supply of appetising and nourishing silage available at the season of the year when "keep" very often becomes scarce. Silos also meet the disappointing consequences on crops from droughts in the spring and summer seasons. In the production of meat and milk, ensilage is destined to play a very important part from the economic point of view. Silage improves the quality of the milk, and helps the taste and quality of beef. Another strong point is that farmers, in saving their fodder crops, are in reality independent of the weather. This consideration is all the more important in a climate such as is experienced in many parts of Scotland.

At a meeting of the directors of the Highland and Agricultural Society, held in February, Dr J. F. Tocher, Aberdeen, Consulting Chemist to the Society, said he had recently examined several samples of silage, and gave the average composition and average nutritive value of silage compared with that of meadow hay, clover hay, turnips, and cereal straw. The average composition of silage as received was  $1\frac{1}{2}$  per cent oil, 4 per cent albuminoids,  $10\frac{1}{2}$  per cent soluble carbohydrates, 8 per cent fibre, 2 per cent ash, and  $74\frac{1}{2}$  per cent of water. Thus, on an average, a silage was three-fourths of water and one-fourth food constituents, which compared favourably with turnips. Turnips contained 90 per cent of water and 10 per cent food constituents. Silage, when taken from the silo, could not be compared with meadow hay or clover hay because of its moisture content. When bone-dry meadow hay and clover hay were compared with bone-dry silage, it was found there was very little difference in the proportions of nutritive constituents.

Bone-dry turnips, however, contained a significantly higher proportion of soluble carbohydrates and sugary material—63 per cent as against 44 per cent for clover hay, 49 per cent for meadow hay, and 41 per cent the average for silage. Oat

straw contained practically the same proportion of soluble carbohydrates, but contained about 10 per cent less albuminoids and 10 per cent more fibre than silage. A considerable quantity of water was drained off from a silo after filling, and this water was found to contain an appreciable proportion of soluble nutritive constituent. In order to save this material, Dr Tocher suggested that an experiment be tried in filling the silo by putting in occasional layers of meadow hay in order to absorb the material and retain the food constituents. Dry straw might also be used for this purpose.

Mr James Cruickshank, Port Erroll, Aberdeenshire, is regarded as one of the pioneers in this country as a user of the modern reinforced concrete silo. He farms several holdings, and has to contend with the disappointments associated with stiff clayey land. Here, briefly, in Mr Cruickshank's own words, are points of much interest in connection with silage and its effect upon stock :—

"The materials I use are beans, peas, oats; red clover and Italian ryegrass; clovery hay; laid grain; barley or oats overgrown with clover, and likely to give trouble in harvest; and any other good green fodder that is to spare. A crop is specially sown for the purpose of making ensilage.

"The quantities per acre are: beans, 3 bushels; peas,  $\frac{1}{2}$  bushel; Scotch tares,  $\frac{1}{2}$  bushel; Sandy oats, 2 bushels. In my experience this is the best mixture for heavy land in Aberdeenshire. The beans are sown any time in February or March, as opportunity offers. Peas, tares, and oats are sown a fortnight later if beans are sown in March; a month later if the beans are sown in February. Beans may be ploughed or disc harrowed in; other seeds broadcasted and harrowed. The land intended for the crop is dunged in autumn and the dung ploughed in. Generally 4 cwt. phosphates per acre are sown with the crop. This fertiliser may be slag, ground minerals, or supers, or a mixture of either. If considered necessary, I apply 1 cwt. sulphate of ammonia.

"My method is to cut the crop when beans, peas, and tares have pods at the bottom and flowers at the top. The oats should be fully shot. In general, cutting should be done when the crop has reached its greatest bulk, or when most farmers would consider it at its best for feeding to stock indoors. If a grass crop, it should be cut green when at its maximum bulk. I have two silos, and it is my intention to have a third one built. Both silos are of reinforced concrete, with walls 6 inches thick. One of the silos is 16' by 34', and the other 16' by 44'. My only regret is that both silos were not made 50 feet in height. I would not wish to alter the diameter. So far as type goes, my 16' by 44' is as near perfection as any one could wish. It has a semi-continuous doorway and ladder inside the chute. In reality it is the embodi-

ment of simplicity to enter and discharge. A man of eighty years of age recently ascended to the top without difficulty.

"The filling is done by means of a cutter and blower of American make. The material, wet or dry, as it comes from the field is chaffed into half-inch lengths, and blown up a pipe into the top of the silos at the rate of 4 tons an hour. I have no experience of stack silage. The silage from my silos may be sweet or sour, according to conditions as to moisture when filling. Both kinds are equally good, and eaten with equal avidity. I use the silage from October to May, but use may be made of it immediately filling is commenced. Cattle will eat it at a temperature of 100° F. as readily as at 50° F. I have fed the ensilage to cattle, sheep, and pigs, and in a limited degree to young horses. Pigs eat the bean, pea, and tare part, leaving the oats. My stock have thriven splendidly on the silage.

"After a few years' experience of silos and silage crops, I am more than ever convinced that the modern silo is the best, and in many cases the only way in which heavy clay land can be kept under cultivation with profit. My two silos combined can store about 400 tons of excellent feed ready for use during the winter and spring months. The feeding value of the ensilage is double the value, weight for weight, of the best turnips.

"The following is an exact record of the cost of growing one 11-acre field of a silage crop in season 1921, exclusive of rent, and starting with the ploughed stubble land, this having been dunged in the autumn with 15 tons farmyard manure, just as for turnips. Each man and each horse is charged at 1s. 3d. per hour :—

MAN AND HORSE LABOUR.

2 men 6 hours sowing beans at 1s. 3d. each per hour . . .	£0 15 0
1 man with 3 horses 12 hours in disc harrow . . .	3 0 0
2 men with 4 horses 10 hours in disc harrow . . .	3 15 0
1 man with 1 horse 9 hours sowing manure . . .	1 2 6
Sowing beans, tares, and oats by broadcast machine, 1 man and 1 horse, 5 hours . . .	0 12 6
1 man and 1 pair horses harrowing 11 hours at 3s. 9d. . .	2 1 3
1 man and 1 pair horses rolling with heavy roller 11 hours . .	2 1 3
	<hr/>
	£13 7 6

COST OF SEEDING.

44 bushels beans at 8s. 9d. . . . .	£19 5 0
22 bushels oats at 4s. . . . .	4 8 0
6 bushels grey peas at 10s. . . . .	3 0 0
6 bushels tares at 13s. . . . .	3 18 0
	<hr/>
	£30 11 0

(Usually only 3 bushels beans are sown, but seed of 1920 crop was poor quality, hence the extra bushel.)

## COST OF ARTIFICIAL MANURES.

44 cwt. phosphates at 7s..	£15	8	0
11 cwt. sulphate of ammonia at 24s.	13	4	0
	<hr/>		
	£28	12	0

Cost of production of 11 acres of silage crop, £72, 10s. 6d.

“ The cost of putting these 11 acres of silage crop (estimated at 16 tons per acre), cut into half-inch lengths, into the silo was as follows :—

Austin tractor running cutter and blower, 58 hours at 4s. per hour . . . . .	£11	8	0
1 man and 2 horses cutting crop with reaper, 40 hours at 3s. 9d. . . . .	7	10	0
3 men and 3 horses carting, 58 hours at 7s. 6d. . . . .	21	15	0
7 men loading, feeding, and tramping, 58 hours at 8s. 9d. . . . .	25	7	6
	<hr/>		
	£66	0	6

“ As this filling was done entirely on days when no work could be done amongst hay on account of wet, it represents the maximum cost in time and labour, as often the cutter was run only an hour or two at a time, and at least a fourth less time would have been required had full days been run in dry weather.

“ Those who wish to make a comparison in cost with turnips on heavy land, charging manure, man, and horse labour needed in cleaning and preparing the land, hoeing, pulling, carting, &c., at the same rates as above, may readily do so, keeping in mind that a silage crop never fails, and a 12-ton crop of silage is always worth more than a 25-ton crop of turnips.

“ In my experience the crop can be grown after lea, after oats, or repeatedly in the same field if convenient. I have usually ploughed the silage fields as soon as cleared (bastard-fallowed them), and sown wheat in September, on every occasion with success (in 1922 Yoeman wheat after silage yielded 5 quarters per acre). Seeds sown on the wheat the following spring have yielded excellent crops of hay; this season (1921) well over 3 tons per acre.”

Mr John Philip, Dandaleith, Craigellachie, reports favourably on the use of ensilage. His reinforced concrete silo is 12' by 50'. Some of the land on the farm is rather cold stiff clay, and disappointments with crops, including turnips, are now and again experienced. A crop of beans, tares, peas, and Sandy oats is sown at different stages in spring, the ground being well dunged in the autumn. At sowing time a

dressing of 6 cwt. good lime, 3 cwt. 30 per cent slag, and 3 cwt. maltassa, the latter being distillery effluents dried and powdered, is applied to the land. The growing of such a mixture is profitable, because it contains much of the nutritive qualities that are necessary for maintaining and building up the constitution of farm stock, including milking cows. As yet Mr Philip has not used natural grass for silage. He cuts the crop in a green state just at the time when he considers animals would relish it most—the right stage of feeding with a certain degree of maturity on it. No harm is done by allowing the crop to sun-dry a little after cutting, especially for the first filling, this obviating the loss of feeding values by the escape of juice squeezed out by pressure as filling proceeds. It would be a great assistance in connection with the filling of the silo if the crop could be cut with a binder instead of a mower. Some years, of course, the binder would be useless if the silage crop became flattened and twisted in the field. The silage in being transferred to the silo would be cleaner, more easily handled, and free of stones, which are very detrimental to the filling machine, if it were cut by a binder.

The crop is cut and cleaned from the fields at a period when there is no rush of farm work. This to some extent is an economic factor in the production of such a crop, and there is no poaching of land as often happens with the carting of a turnip crop. The ensilage is chaffed and put into the silo by means of a blower. Care should be taken in the filling of the silo, so that the quality of the silage would not be impaired in any way. The mixture should be evenly distributed, and in the course of filling, the outside should be well packed and kept a trifle higher than the centre. Should the filling be done at different times, all mouldy silage must be removed off the top before starting to fill again; and when nearing the top or at the last filling, the harder the packing the better. To help this, and in contrast to the bottom, let the silage be real wet. A jet of water from a rubber pipe, introduced into the side of the filler blast while working, answers admirably. Again, when finishing filling, if the silage is not to be used immediately, then there will be a certain amount of moulded silage to be discarded; and for economy inferior material, such as rushes, may be put on the top to the depth of about 6 inches. Each day for ten days after finishing, the surface should get a good tramping down, especially round the edges, and a soaking with a hose-pipe every second day during that time is beneficial.

The following gives the result of analysis of Dandaleith silage :—



	CROP 1921.		CROP 1922.
	(a)	(b)	
	9/12/21.	28/3/22.	24/11/22.
Oil . . . . .	1.80	1.17	1.91
Albuminoids . . . . .	3.17	2.37	2.88
Soluble carbohydrates . . . . .	13.18	10.36	7.77
Fibre . . . . .	7.99	6.61	7.03
Ash . . . . .	1.79	1.15	1.79
Moisture . . . . .	72.07	78.34	78.62
	100.00	100.00	100.00

(a) Sample taken 4 feet depth, or 34 feet from bottom.

(b) Sample taken 16 feet from bottom.

The difference between crop 1921 and 1922 is that one was grown in a sunny season, and with fair degree of maturity at filling; the other was grown in a wet sunless season, it was filled soft and green as it was getting lodged, and was cut to prevent spoiling at the roots.

With turnips and straw Mr Philip gave the ensilage to his pedigreed cows after calving and to yearling heifers, and they went out to the grass in good heart and condition. Since the cows began to get ensilage, the calves were more free from stomach troubles than was the case before he had a silo erected. The area of turnips at Dandaleith has been reduced by 26 per cent, and at a modest estimate the number of cattle wintered had increased by 25 per cent, and in Mr Philip's own words, "they are better done."

### THE OPEN-AIR STACK SYSTEM.

Captain Evan Fraser-Campbell of Dunmore, Tarbert, Loch Fyne, reports that—

"Ensilage is made at Dunmore Home Farm on the open-air stack system. For the small farmer this method has many advantages, among which may be mentioned: elasticity—the stack can be made wherever convenient; simplicity of operation—no special tools or implements required; capital outlay—none. Under this system the crop is ensiled without chaffing, and can be either meadow hay or a specially grown crop. The method is, however, not applicable to fodder crops containing bulbous stalks, as without chaffing these could not be sufficiently consolidated when in the stack to drive out the air.

"The special crop grown here consists of Hamilton oats, Scotch rye, and winter vetches in the proportion of 70 lb., 56 lb., 56 lb.—a total of 182 lb. to the statute acre. The object sought is to get a mixture of plants that will produce

a nutritious fodder, and yet will grow at about the same rate so that none will be smothered. An important point is not to sow too much vetch in proportion to the cereal, or the crop will lodge. The mixture is sown about the same time as the oat crop—*i.e.*, in early April—and the treatment of the land, both before and after sowing, is the same as for the cereal crop. Artificial fertilisers have not been used in growing these crops.

“The crop can be cut at any time during its growth, but probably the best time is when the cereals are in the ‘milk’ stage, for then the vetch stalks are not too tough and fibrous to respond to pressure. When cut it can either be gathered at once to the stack, or first allowed to wilt for a few hours—it seems to make little difference to the resulting ensilage. Cutting is done with the ordinary hay-mower, the swathes are run into winrows with the horse-rake, and then gathered to the stack with the hay collector; but if the weather is wet, it is best to cart it to prevent earth adhering to the fodder. It must be borne in mind that the crop is harvested on a stubble field. The crop is usually in the stack in eleven to twelve weeks from the date of sowing, so that a good opportunity is given for a catch crop. Also, if the crop is cut with a high stubble, 6 inches, and then given a light dressing of dung, 5 or 6 tons per acre, a good second growth will result if the land is in good heart. This second growth can be ensiled, or used in any other convenient way. Carting and stacking can be done equally well in either wet or dry weather.

“My stacks are built circular, 16 feet to 18 feet in diameter, with conical top rising to 3 feet or 4 feet in the centre. A stack of this diameter, and 12 feet to 14 feet high at the eaves, can be built from the produce of two acres of the above mixture. In building it is important that the material should be uniformly packed all round. There is no necessity for heavy tramping. If built on sloping ground, it will be found that the stack usually settles first on the downhill side. This is due to the fact that the tendency is to fork up the material at the point of least lift—*i.e.*, the uphill side—so that the man building the stack unconsciously tramps this portion more heavily than the remaining portions.

“The result is that when the stack is finished, the uphill side is more consolidated and contains less air, hence heating starts more slowly, and the natural settling and consolidation does not keep pace with that of the rest of the stack; part of the stack tends to slide bodily downhill, and eventually when it is cut into, it will be found that there is considerably more waste than normal. It is important, therefore, that the loads should be forked up at different points around the circumference. Apparent uniform settling can be attained when

earthing the stack by applying greater weight to the more slowly consolidating portion, but experience has shown that the final result is not nearly as satisfactory as if the initial settling had been natural and uniform. I try to build my stacks to the size mentioned in one operation.

"Heating starts within a few hours after the stack is built. When it is steaming strongly, which it will do in from 24 to 48 hours, the temperature is taken at different points with an ordinary rick tester. It will be found to vary from 120° F. to 160° F., and the stack will have begun to settle. The temperature will never be found to be uniform all through the stack, but there is such a wide limit within which successful results may be obtained that it is not necessary to strive for a definite average temperature, but 120° is about the minimum that is desirable. When the maximum is around 160°, more stuff is added to the stack, or if no more is available, 4 to 6 inches of earth is thrown on top. If on the following morning the temperature has again risen, more earth is added, and so on until there is no rise in temperature.

"The stack is then finished off by adding earth to a total depth of at least two feet. The stack is built with straight sides, and these should be well plucked, not trimmed with a knife, to minimise waste. Before throwing up the earth, the top should be covered with any waste material, such as bracken, and a coping of sods should be placed, grass down, around the verge of the stack to keep the loose earth in place. The earth covering should be sloped to shed the rain, and as cracks appear these should be filled up. It is well to smooth off the surface of the earth with the back of a shovel. Made in this way the result is sweet ensilage.

"It is essential to allow the heating to get a good start, and I have had temperatures up to 180° with no bad results. The secret seems to be to apply the weight slowly to check the temperature as it approaches 160°, and when it ceases to rise, add the final covering to force out the air by consolidation. It is very advisable, when the stack has settled down, to earth up the sides so that the stack is completely covered. If weight should be applied before heating, in addition to squeezing out a lot of moisture, one would probably get sour ensilage, though I have not tested this point. Properly made, there should not be more than 1 to 2 inches of waste around the sides. A stack 12 to 14 feet high at the start will settle down to 4 or 5 feet. It is more satisfactory to build two stacks of the size mentioned than to combine the two into one. This is most apparent when earthing up the stacks, and when they are cut into for feeding.

"The stack should be cut into in wedge-shaped sections, using a hay knife, and each section should be carried down

to the bottom of the stack before starting a new section. The earth covering is only removed as the cutting proceeds. It is best not to cut out more than three days' supply at a time. The ensilage can be spread in the field in small heaps, or fed in the byre. In either case all is consumed. I have had no trouble with tainted milk, but I have always made sweet ensilage.

"Dairy cows and store stock are fed with ensilage. The animals are very fond of it, and I have had no trouble in keeping them in condition. They get no turnips; in fact, I expect to do away with the turnip break entirely. Along with the ensilage the stock get straw and hay. My feeding experiments are still in the experimental stage, so that I have no complete data on this point. But the indications are that with ensilage made of the mixture indicated, it can be fed in much larger amounts than is ordinarily supposed without bad effects on the stock getting it, and that, with the addition of the usual quantities of hay and straw, but no cake, the yield of milk can be appreciably increased, and store stock brought along satisfactorily through the lean winter months. I have not fed any other class of stock on ensilage, nor have I had it analysed.

"The cost of production works out at approximately one-third to one-fourth of that of hay produced in this wet climate. This does not take into consideration the value of the second growth mentioned above in connection with the special crop grown here."

Mr Charles Douglas of Auchlochan, Lesmahagow, Lanarkshire, says:—

"I grow a special crop for ensilage, consisting of tares, grey peas, and oats, about a bushel per acre each of peas and tares being sown with three bushels of oats. The crop receives potash and phosphatic manures. It is sown in April and cut in August. The silo consists of an old barn filled through a sheaf door from the roof. The ensilage is closely tramped, and filled gradually first to a height of 6 feet, and then by the addition of about 3 feet every few days. The rate of filling and application of pressure are regulated according to the temperature, which is allowed to rise to 160° F., and is checked by pressure so that it should not go much above that figure. The pressure is applied by means of iron plates, pulled down by ratchets and pulleys. The resulting ensilage is sweet in character. It is used largely for dairy cows, which eat it greedily. It is also fed to young cattle and to pigs; all these kinds of stock appear to be very fond of it.

"I have never been able to make a close estimate of the cost of production, but ensilage is undoubtedly much cheaper to produce than a similar quantity of turnips, while its feed-

ing value is very substantially greater. It appears to be an excellent food for milk production. The crop has a good effect in smothering weeds. It usually takes the place of a lea crop of oats."

Sir Hugh Shaw Stewart, Bart., of Ardgowan, Inverkip, Renfrewshire, has a silo at the Home Farm, Bankfoot. For the filling of it there is a specially grown crop—vetches, oats, beans, Italian ryegrass, also natural grass. Two bushels Scotch tares, one bushel Hamilton oats, half a bushel beans, and one bushel Italian ryegrass per acre are sown in March on previous season's lea ground, usually without manure. The crop is cut about the end of July. The natural grass (from policies, &c.), is cut after the vetches crop has been finished. The silo is of the old style. It is a concrete building in two parts, each 14 by 15 by 20 feet deep, the whole containing about 100 tons of ensilage. It is filled with a horse fork, unchaffed, and tramped with men. The ensilage is covered with planks, and pressure put on by means of a heavy beam and screws. No temperature is taken, and the ensilage is sweet. The silage is fed to milk cows and young stock. They eat it very greedily, the period of consumption being from January right on until cows go on to grass in May. Sir Hugh Shaw Stewart's experience is that the ensilage is excellent for feeding. Young stock thrive well on it, and cows milk splendidly.

The cost of production of the 1922 crop—nine acres under vetches, &c., field situated  $1\frac{1}{2}$  miles from silo at the Home Farm—is estimated as follows:—

Ploughing, 8 days of 2 pair at 27s. 7d. per pair	£22	1	4
Sowing, $\frac{1}{2}$ day at 7s. 8d.	0	3	10
Serve seed, $\frac{1}{2}$ day at 4s. 6d.	0	2	3
Harrowing, $1\frac{1}{2}$ day of 2 pair at 27s. 7d. per pair	4	2	9
Rolling, 1 day at 17s. 6d.	0	17	6
Cutting, 3 days of 1 pair at 27s. 6d.	4	2	6
Carting, 5 days of 5 carts at 17s. 6d. per cart	21	17	6
Filling, 5 days at 56s. 8d.	14	3	4
Seed	21	15	1
	<hr/>		
	£89	6	1
Total vetches crop carted, 95 tons. In addition, 10 tons of policy grass carted in; cost of cutting, carting, &c.	9	15	6
	<hr/>		
	£99	1	7

Mr A. Cunningham, Cragston, Stewarton, has a concrete silo, and he reports that the crop used is a mixture of oats, beans, and peas. This is sown at the usual time and cut green. The silo is filled with an ordinary silo filler. The material is cut to half-inch length and blown in at the top. The ensilage is fed to Ayrshire young stock and milk cows

during the winter months, and its greatest advantage is the effect it has on young stock. The ensilage evidently contains all the necessary vitamins for the creation of growth, and the stock that get it make greater progress with the ensilage and hay and straw than any other method of feeding. They do not require either cake or meal. Mr Cunningham has not gone into the actual cost of production, but, as the result of his experience, he states he would not like to be without a silo.

Mr James Howie, Hillhouse, Kilmarnock, interviewed on the subject, said :—

“My silo is of reinforced concrete, 40 feet high by 16 feet diameter; circular, with six doors on one side. On my lea break I sow 10 cwt. basic slag per acre. After being ploughed, and whenever the land is in condition, say about 20th March, I sow a mixture of oats, beans, maple peas, rape, and one bushel Italian ryegrass per acre. My practice is, whenever the crop is full grown, to cut it, and get it without delay into the silo. The greener it is the better. I cut the silo crop with *the mower*, and draw it from the field to the silo on rick-lifters or carts. An ‘Ohio Mower I2’ cutter and blower is used to chaff the crop and blow it up into the silo. I believe in cutting it as short as possible, and trampling it well down in the silo, especially so round the inside, close to the walls. Cut the crop green; chaff it as short as possible; tramp it well; and suppose it rains every night before it is led to the silo, so much the better. My experience is that following this plan sweet silage will result. We open the silo about the end of December, and feed it principally to milk cows. Young cattle grow well on it, and I have fed it to lambed ewes during March and April with good results. Horses take ensilage readily; they thrive and come well through the spring work on it. On clay land, where the turnip crop is expensive and the result doubtful, a very heavy tonnage of green feed can always be grown from the mixture I have indicated. I reckon that the feeding value of 1 ton of well-made ensilage is equal to 3 tons of swedes.”

In the west country, Mr Colin Campbell of Jura is an enthusiastic user of ensilage. He has not a closed silo, but builds a stack. The material he employed was meadow grass with some white clover among it. No special crop was grown. The meadow grass was cut before it was quite ripe. It was stacked usually in the afternoon of the morning in which it was mowed. Slight rain falling or a heavy dew had not, so far as Mr Campbell could trace, a detrimental effect on the physical or nutritious qualities of the ensilage. The grass was not chaffed. When the stack was getting too high, nothing would be put on to it until the lapse of about two days, by which time the stack would sink considerably. Then, when the stack was completed, the top was rounded off with rushes

and sods cut from the heathery land and put on the top to cover it. The temperature was taken occasionally, but it was not allowed to go below 90° or above 160°. The colour of the ensilage was olive brown to dark brown; it was sweet, and had a vineous or alcoholic smell. In addition to store stock, milk cows were fed from the stack. The milk yield showed a decided improvement during the spring when turnips were scarce. Mr Campbell did not keep a record of the cost of production, and he never, from a scientific point of view, ascertained the feeding value of the silage.

In a letter, dated 20th December 1922, received by the writer from Mr Campbell, he said :—

“I made an oblong stack last year of ordinary meadow grass cut from one of my fields. It contained a fair quantity of white clover. If I found the stack was getting too hot, I added more material, but did not bother very much about the temperature until the stack was finished, when I was careful not to let it exceed 160°, by putting on sods cut from heather. I fed 6 cattle, 18 months old, from 1st December to end of February on nothing else but silage. They got about 25 lb. per day, with the run of rough grass and heather during the day, and in sheds at night. They did quite fairly well. In March I gave three a little straw in addition to silage, the other three got 2 lb. linseed cake. The former, I think, did best, but that may have been owing to a difference in the animal, as we only weighed one out of each lot. I have these cattle still, and they grazed and grew well during the summer. I have made a round stack this year of similar material. It is 25 feet diameter by 14 feet high. I hope it will turn out as well as last year's one. I am not as yet inclined to give any decided opinion upon feeding with ensilage alone, but I am strongly under the impression that it can take the place of turnips, and cattle could be wintered out on it if they had the needful amount of shelter.”

At Gordon Castle Farm, Fochabers, the Duke of Richmond and Gordon has a reinforced concrete silo. Beans, tares, peas, and oats mixed make up the crop. The beans are ploughed in as early as possible, and the other seeds are drilled in before the beans appear. This crop is cut before the grain harvest. The silo was started to be filled in late June with natural pasture, and finished in September. The ensilage is chaffed and blown in at the top. The contents of the silo were used for the first time in October 1922. It was given to cows and store stock, and they appeared to enjoy it, and thrive splendidly on it. Mr Dawson, the manager, said it had been his intention to give the ensilage to sheep and pigs; but with the open winter and abundant supply of other food, this intention so far had not been put into practice.

## VIEWS OF A CAITHNESS FARMER.

Mr John Robson, jun., Lynegar, Watten, Caithness, a breeder of pedigreed stock, gives his experience as follows:—

"My silo is of reinforced concrete, and is 16' by 44'. I have now had it filled three times, and am well pleased with the results, an improvement taking place each succeeding year. I have each year sown a special crop—a mixture of beans, tares, peas, and oats. I have tried them in the following quantities:—

	(a)	(b)	(c)	(d)
Bushel beans . . .	3	2	1	3
" tares . . .	1	1½	2	½
" peas . . .	½	½	½	½
" oats . . .	1	1	1	2

"I have found (a) much the most profitable, as both (b) and (c) were very difficult to cut, owing to the tares going down badly. This year I intend growing (d), as I think the tares will still be thick enough to smother annual weeds, and the peas should grow up with the beans and cutting should be much easier.

"After ploughing the stubble, I sow 5 cwt. slag, and harrow it in. I broadcast the beans, and plough them in 4 inches or so as early in March as weather permits, and then roll. A fortnight later I drill in the rest of the seeds, and roll well. Then on the braird appearing, I top-dress with sulphate of ammonia 1 cwt. and 3 cwt. supers. We cut as soon as possible in August with a hay mower. Carts or hay bogies carry the crop to the silo. The crop is chaffed and blown up with a Massey-Harris chaff cutter and blower, which I find useful for chaffing hay and straw in winter by putting the piping from the blower into a roof light or window of an empty shed, and filling it. It is driven by a steam tractor, which I find more economical and handier than a petrol tractor. Two good men, or better still, three, are required in the silo to keep it level and well packed round the sides. I have not taken temperatures, but this year the silage is of nice colour, and has a pleasant smell.

"I have used the silage for milking cows and young stock, starting about November and continuing till they go to grass. The cows get it every night and in the morning turnips. Some of the yeld cattle did not get anything last winter but silage and cut hay, with water always in their troughs. They wintered well and summered, I think, every bit as well, if not better, than some of the stock that got silage, turnips, straw, and a small quantity of artificials. I have not fed the ensilage to sheep yet, but I have seen it very successfully fed to hogs in Northumberland. My pigs are at another steading, and I cannot yet give an opinion as to the effects



of feeding it to them, but I may say I have seen other farmers feed it to pigs with good results.

"The costs are rather difficult to estimate year by year owing to the varying prices of seeds. When filling—if the field is near the silo—three carts or bogies can keep the cutter going, whereas it takes six men to carry on if the field is a considerable distance away. A crop of 14 or 15 tons per acre was taken in this season. The preparation of the land and sowing is small compared with that for the turnip crop. Harrowing and broadcasting beans and ploughing them is quickly done with two-furrow ploughs and a pair of horses, and possibly a tractor and three-furrow plough. Then there is rolling, drilling in tares, &c., and rolling again, besides the two sowings of manures. I have grown my crop after oats, and followed it with turnips, which have been very good. The filling is the most expensive part, but if the ground is dry for carting, it helps considerably. Then, this branch of the work comes at one of the slackest periods of the year—between turnips or hay time and harvest. In some ways it takes up the time that one used to devote to the mending of fences and the repairing of roads.

"From the way that my in-calf two-year-old heifers thrive on silage and hay alone, I value it equal to turnips, straw, and a small quantity of corn or cake. It saves a lot of straw or hay if the cattle receive silage even once a day. This season I intend trying ewes on silage."

## A PIG-FEEDING EXPERIMENT. (INDOOR *VERSUS* OUTDOOR FEEDING.)

By PRINCIPAL W. G. R. PATERSON, B.Sc., West of Scotland  
Agricultural College.

THE pig-feeding experiment under consideration was carried out at the College Farm, Kilmarnock, and was in a sense really a continuation of the investigation previously in progress which had been interrupted during the war, and for various reasons could not be resumed at an earlier date.

The results obtained in previous experiments had clearly demonstrated that the soaking or scalding of meals for fattening pigs was quite unnecessary, and indeed inadvisable where whey was available, as fully the best results were obtained by feeding the meals raw and dry. It was also shown that fish meal was a valuable asset in pig-feeding, and that it could be employed with material advantage up to as much as one-eighth by weight of the total amount of dry meals. (See Bulletin No. 75.)

In these experiments, however, all of the pigs had been housed and fed indoors, but during the last eight or ten years pig-keeping on the outdoor system has made very great progress, and it was deemed expedient to conduct, in the first place, an experiment to ascertain what advantages or disadvantages were associated with that method in the case of fattening pigs.

No one would readily gainsay the importance of exercise for breeding sows, and the other benefits, such as reduction in maintenance costs, from giving them a free run on grass are equally important and far-reaching in effect; but it is rather a different matter with pigs to be fattened off as quickly as possible, for the exercise, while it no doubt favours growth, is almost bound to somewhat retard the rate of fattening. That at least is the opinion of many feeders, and it was in order to throw further light on this point, and ascertain relative rates of progress made by fattening pigs with a free run, as against those confined in the house, that the experiment was conducted.

### METHOD OF CONDUCTING THE EXPERIMENT.

The experiment commenced in the beginning of June, and out of twenty Large Black pigs that were available, sixteen

which appeared to be suitable for experimental purposes were selected. A larger number would have been preferred, but were not available at the time.

The pigs were placed in two groups, with eight animals in each, and so arranged that the groups were as nearly as possible alike as regards the following factors :—

1. *The Litters from which the Pigs were Drawn.*—Special stress was put on this, as some work previously carried out at the College Farm had emphasised the great variation in progress due to breeding. Some litters as a whole do very much better than others, though of the same breed and age and similarly treated.
2. *Sex.*—While this is of less importance than the point referred to above, it is nevertheless important, and was kept in view in grouping the animals and the two groups made alike.
3. *Live Weight.*—There was a little variation in live weight, due chiefly to individuality, and to the fact that some of the pigs were about a week older than others. The average age was between eight and nine weeks at the time the experiment commenced, and the average weight of the pigs in each group just a little over 27 lb.

After the pigs had been satisfactorily grouped, the one lot was housed, and the other moved off to the field.

The eight pigs destined for feeding indoors were housed in two pens, four animals being put in each, in a building entirely covered in and with a central feeding-passage. Each pen measured 10 ft. by 9½ ft. The floor was of brick, and the back portion was raised a few inches above the front, so that the pigs had always a dry bed. The feeding-trough, though a continuous one, was subdivided in such a way as to give separate feeding space and feeding accommodation for four animals only. In this way there was more chance of each pig getting its due share of food.

The eight pigs taken to the field were allowed, to begin with, one-tenth of an acre of pasture, but the temporary fence, which consisted on one side of corrugated iron sheets, was moved back when the grazing began to get a little dirty and bare.

The pasture was of the very best, being second year's grass, and containing, in addition to the best rapid growing grasses, abundance of clover, including a big proportion of wild white clover.

The soil was dry, being of the nature of a sandy loam ; and the field, being low-lying and having a high hedge on one side, was fairly well sheltered.

A corrugated iron hut, with semicircular roof and raised wooden floor, was provided for housing the pigs, and this they had access to at all times. The hut was kept well bedded with straw, and as the actual floor space was 9 ft. 6 in. by 7 ft. 3 in., there was ample room for the eight pigs, and they always had a dry bed.

The animals in this group were fed in the open, separate troughs being provided for the meals and the whey.

#### RATION FED.

The two groups were fed exactly alike, despite the fact that the outside group could pick up a good deal from the pasture. The ration fed to both groups of pigs consisted of the following mixture :—

Maize meal—four parts by weight.  
Fine thirds—three parts by weight.  
Barley meal—two parts by weight.  
Fish meal—one part by weight.

The daily allowance to begin with was 1 lb. per pig, but this was increased by  $\frac{1}{4}$  lb. each week—namely, to  $1\frac{1}{4}$  lb. per day at the end of the first week,  $1\frac{1}{2}$  lb. per day at the end of the second week,  $1\frac{3}{4}$  lb. per day at the end of the third week, and so on.

Whey was fed in addition to the mixed meals, the amount of whey given being all along in the proportion of two-thirds of a gallon of whey to 1 lb. of meal.

The meal was fed raw and dry, morning and evening, but the whey was given in three portions—morning, noon, and evening. The actual feeding time-table was as follows :—

7 A.M. One-half of the daily allowance of meal, followed by one-third of the daily allowance of whey.

12 NOON. One-third of the daily allowance of whey.

5 P.M. One-half of the daily allowance of meal, followed by one-third of the daily allowance of whey.

The pigs were weighed fortnightly, and in order that the individual weights could always be accurately recorded, and the actual progress made by each animal noted, every pig was numbered, by pinching a small part out of the edge of the ear, the number assigned being according to the position of the ear mark. This method was found to be entirely satisfactory in every way.

The summer, except for a warm spell just about the time the pigs were put out, was rather cold and wet, and the average summer temperature below the normal; on that account, the outdoor pigs did not get the best chance, especially as they had not been run out of doors with their mothers

prior to weaning, but were put out just after they had been removed from their mothers. The mild weather experienced at first was, however, very greatly in their favour, and though the period was short, it did help to get the pigs accustomed to outdoor conditions under favourable circumstances.

#### DURATION OF THE EXPERIMENT AND RESULTS OBTAINED.

From the very commencement of the experiment, the pigs housed and fed indoors made the best progress, and as time went on they drew steadily away from those in the outdoor group, though all of them still continued to get the same ration.

After continuing the experiment for a period of fourteen weeks, it was felt that no further useful information would be gained from continuing on the old lines, as the outdoor lot of pigs were not doing well, and were evidently suffering, to some extent at least, from the unseasonable weather. It was accordingly decided to house the pigs in the outdoor group, and note how this affected their subsequent rate of progress. It is often contended that pigs which have been reared on the open system make abnormal progress when housed and liberally fed for finishing off, and it was with a view to ascertaining if the outdoor group of pigs would make up much of the leeway they had lost that this step was taken.

The results obtained from the commencement of the experiment on the 6th June up to the 12th September, when the change was made and the pigs housed, were as follows :—

TABLE I.—LIVE WEIGHTS AND INCREASES.

Lot 1. (Indoor group.)

Pig. No.	Live weights on the following dates :—								Increase for 14 weeks.
	June 6.	June 20.	July 4.	July 18.	Aug. 1.	Aug. 15.	Aug. 29.	Sept. 12.	
	lb.	lb.	lb.	lb.	lb.	lb.	lb.	lb.	
1	28	39	52	66	81	100	108	138	110
2	32	48	65	84	102	124	134	163	131
3	32	45	58	73	87	105	116	137	105
4	23	30	40	51	67	80	93	117	94
5	28	42	55	71	91	106	118	144	116
6	31	43	59	80	95	111	124	149	118
7	24	37	53	68	88	104	120	144	120
8	21	29	38	51	66	79	93	115	94
Total	219	313	420	544	677	809	906	1107	888

## LOT 2. (Outdoor group.)

Pig. No.	Live weights on the following dates:—								Increase for 14 weeks.
	June 6.	June 20.	July 4.	July 18.	Aug. 1.	Aug. 15.	Aug. 29.	Sept. 12.	
	lb.	lb.	lb.	lb.	lb.	lb.	lb.	lb.	
1	30	38	50	66	78	88	96	108	78
2	36	52	64	80	99	109	120	136	100
3	24	31	40	44	50	54	58	64	40
4	26	35	42	51	64	69	71	80	54
5	24	34	42	52	65	71	78	87	63
6	32	43	55	68	86	89	88	100	68
7	23	28	35	40	47	53	61	68	45
8	23	33	42	53	64	71	82	84	61
Total	218	294	370	454	553	604	654	737	509

It will be readily apparent from the foregoing results that the progress made by the animals in the indoor group was on the whole quite good, the total increase in live weight for the eight pigs over the fourteen weeks amounting in all to 888 lb. This represents an average live weight increase per pig of 111 lb., and an average weekly increase per pig of approximately 8 lb. Further, from appearances, it was quite apparent that the pigs in this group were specially healthy and thriving well.

The animals in the outdoor group of pigs showed very much greater variation, and with the exception of a single pig (No. 2), which was rather better to begin with than any other animal in either lot, the rate of progress was very disappointing. For the first eight weeks the difference in progress was not quite so marked, but from that time on, however, it was very pronounced, this being made more readily apparent by the fact that while the rate of increase for the outdoor group materially diminished, that for the indoor group increased, and in the last six weeks of outdoor feeding that group fell sadly behind.

The total live weight increase for the eight animals in Lot 2 over the fourteen weeks amounted in all to 509 lb. This represents an average live weight increase per pig of almost 64 lb., and an average weekly increase per animal of approximately  $4\frac{1}{2}$  lb.

At first the pigs in this group looked as if they were all thriving well; they roamed about a good deal, but were making considerable growth, and were quite pleasing in appearance, though not just so plump as the indoor lot. This difference was at the time taken as being in great

measure due to the extra amount of exercise indulged in by the animals. As time went on, however, it became apparent that not only were the weekly live weight increases small, but the pigs themselves had not the appearance of thriving. Further, they were far from being as fat as those in the indoor lot, and they had not even grown to the same extent.

When considered from the point of view of live weight increase, the return from the outdoor lot, relative to that from the indoor lot, was very disappointing, and certainly not such as to point to the advisability of attempting to fatten pigs out of doors when whey was available and fed in considerable amounts.

Apart from whey and grass not proving a good combination, the poor results may have been due in great measure to two other factors—(1) the cold wet weather which prevailed for the greater part of the time the pigs were out of doors, the mean temperature being below the average, and (2) the fact that the pigs were not reared out of doors from the start, and thus were not accustomed to outdoor conditions from birth.

#### FOOD CONSUMED PER LB. LIVE WEIGHT INCREASE.

When the results are considered from the point of view of food consumed per lb. live weight increase, the outdoor feeding appears in a still worse light, for, as already pointed out, the ration was steadily increased week by week, hence the amount of meal and whey consumed *per lb. live weight increase* is very much greater in the case of the outdoor pigs than with the indoor lot, the actual amounts being as follows :—

Indoor lot—2·3 lb. meal and  $1\frac{1}{2}$  gallons of whey.

Outdoor lot—4 lb. meal and  $2\frac{3}{4}$  gallons of whey.

The writer does not wish to stress unduly the results obtained, or attempt to draw conclusions from them, in view of the relatively small number of animals employed, and the other factors already referred to as possibly affecting relative rates of progress. Even allowing for these things, however, the results are suggestive, if not conclusive, and there is great need for further investigation along the same or slightly modified lines.

The outdoor group of pigs might have made better progress on a smaller ration, as they would then have had to forage more for themselves, and live weight increases, even if no greater, would at least have been obtained at a much lower cost.

## RESULTS FROM SUBSEQUENT INDOOR FEEDING.

After the pigs had been weighed on 12th September, the animals comprising the outdoor group were housed. Unfortunately, one pig (No. 4) died just before the housing took place, so there were only seven pigs left in Lot 2 to carry on the test with.

The ration for this group was readjusted according to the live weight of the animals, and brought more in keeping with, though still remaining relatively a little more liberal than, what the pigs in Lot 1 were receiving. Before being housed, the pigs, in view of the weekly increases in the ration, were being

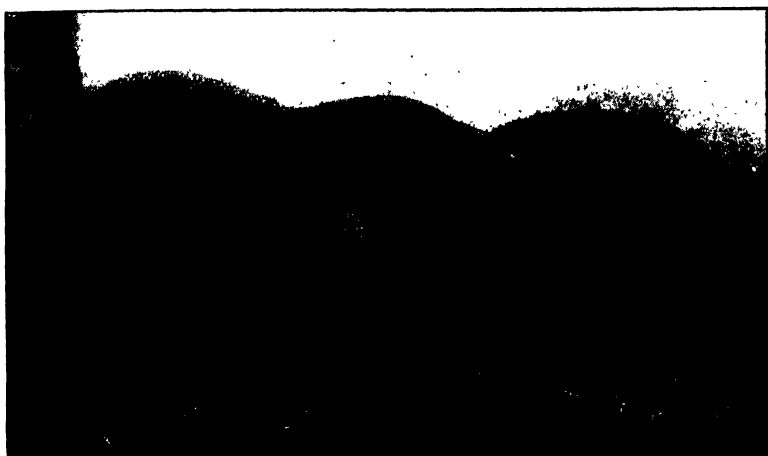


Fig. 1.—Lot 1—Four typical pigs from the indoor group when thirty weeks old.

fed during the last week out of doors at the rate of  $4\frac{1}{4}$  lb. of meal per animal per day with whey in proportion, but this was reduced to 24 lb. of meal for the seven pigs, which represented a little under  $3\frac{1}{2}$  lb. per animal.

In adjusting the ration the three heavier pigs were put in one pen, and received 12 lb. of meal daily to begin with. The four smaller ones were put in another pen, and they also got 12 lb. of meal daily. Whey was fed in the proportion already stated, and both meal and whey were increased by the same weekly amounts as formerly.

The experiment was continued for a period of four weeks to ascertain the effect of housing the pigs and feeding them indoors after the fourteen weeks out of doors. They were, as formerly, weighed fortnightly, and the increases in live weight noted.



The results obtained during this period, though quite good, were nevertheless somewhat disappointing, and not altogether what was expected, as the pigs in Lot 1 still continued to make fully the better progress.

The actual live weight increases for the two lots of pigs for this period, and for the entire feeding period of eighteen weeks, are given in Table II., and these figures show that the pigs which had been housed and fed indoors from the commencement of the experiment actually gave greater live weight increases during the period 12th September to 10th October than the pigs which had formerly constituted the outdoor group, but which for the last four weeks had been

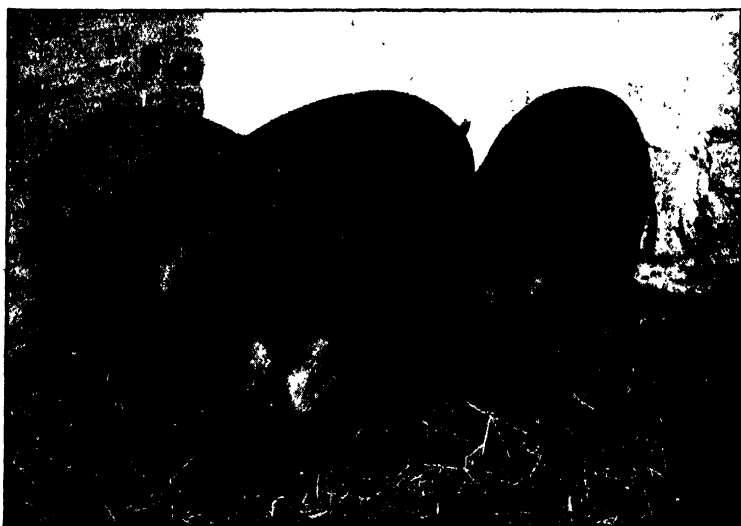


Fig 2.—Lot. 2—Four typical pigs from the outdoor group when thirty weeks old.

housed. The average live weight increases for this four-week period were as follows:—

Lot 1—41½ lb., or 10·3 lb. per pig per week.

Lot 2—34 lb., or 8·5 lb. per pig per week.

Even during this period, therefore, though the pigs were now all being treated practically alike, the original indoor lot still continued to make most rapid progress.

The experiment terminated on the 10th of October, as it was quite apparent that no further useful information bearing on the subject being investigated would be obtained from continuing it; further, the cheese-making season at the Dairy

School now being over, whey was no longer available, and the rations had accordingly to be slightly modified.

**TABLE II.—LIVE WEIGHT INCREASES FOR LAST FOUR WEEKS AND FOR ENTIRE PERIOD.**

**LOT 1. (Indoor group.)**

Fig. No.	Live Weights on—			Live Weight Increases for—	
	Sept. 12.	Sept. 26.	Oct. 10.	Last four weeks.	Entire period.
	lb.	lb.	lb.	lb.	lb.
1	138	160	178	40	150
2	163	193	208	45	176
3	137	157	172	35	140
4	117	140	156	39	133
5	144	166	185	41	157
6	149	169	188	39	157
7	144	174	192	48	168
8	115	137	158	43	137
Total	1107	1296	1437	330	1218
Average	138.4	162.0	179.6	41.2	152.2

**LOT 2. (Formerly the Outdoor group.)**

Fig. No.	Live Weights on—			Live Weight Increases for—	
	Sept. 12.	Sept. 26.	Oct. 10.	Last four weeks.	Entire period.
	lb.	lb.	lb.	lb.	lb.
1	108	131	142	34	112
2	136	161	172	36	136
3	64	84	106	42	82
5	87	110	122	35	98
6	100	111	123	23	91
7	68	83	98	30	75
8	84	107	122	38	99
Total	647	787	885	238	693
Average	92.4	112.4	126.4	34	99

Up to the 10th October, when the experiment proper may be said to have ended, the meal and whey consumed for

each lb. of live weight increase produced was, for the pigs in Lot 1, *2·6 lb. of meal and 1·7 gallons of whey*, and for the pigs in Lot 2 (irrespective of pasture), *3·7 lb. of meal and 2·5 gallons of whey*. The pigs which had been kept indoors all the time were therefore very much more economic producers than those which were outside for fourteen weeks, and further, they matured much earlier.

From the 10th October until the pigs were killed the two lots were fed on the same basis, and careful records were kept of the food given and the progress made.

The animals in Lot 1 were ready for killing about seven weeks before those in Lot 2, as the keeping of the latter for fourteen weeks on the outdoor system had greatly retarded growth and fattening. They were killed on 20th November, being at that time about thirty-two weeks old, and having given an average weekly increase of 8·6 lb. per pig per week from the time the experiment commenced.

The pigs in Lot 2 were not killed until the 10th January. They were then thirty-nine weeks old, and the average weekly increase had amounted to only 6·8 lb. per week from the commencement of the experiment.

Full particulars of the live and dead weights of the pigs in each lot are given in Table III., and it will be readily apparent from these figures that, though the pigs in Lot 2 were seven weeks older than those in Lot 1 at the time they were killed, they were really very little heavier, the difference in dead weight amounting to approximately  $2\frac{1}{2}$  lb.

The seven weeks extra feeding required was entirely due to these pigs being kept for fourteen weeks on the outdoor system, hence the results do not support that method of rearing in the south-west of Scotland when rapid fattening is aimed at, and when whey is available in considerable quantity.

The foregoing results should not be taken as quite conclusive except under conditions similar to those which prevailed. As has already been pointed out, the number of pigs available for the experiment was too small entirely to eliminate individuality; the season was a very unfavourable one, and the young pigs were not out of doors while suckling, but were only put out after being weaned. These are factors in the experiment which cannot be ignored, and though the rate of progress is so markedly in favour of the indoor feeding, it would be unwise on the strength of the results of this single experiment to conclude that the difference in favour of indoor fattening would always be so pronounced. There is urgent need for the subject being further investigated.

TABLE III.—LIVE AND DEAD WEIGHTS.

LOT 1. (Killed 20th November.)

Pig. No.	Live Weight.	Dead Weight.	Dead Weight to Live Weight.
	lb.	lb.	Per cent.
1	239	184	77·0
2	262	206	78·5
3	231	177	76·6
4	216	167	77·3
5	240	190	79·2
6 <sup>1</sup>	206	165	80·0
7	258	201	77·9
8	215	167	77·6
Average	233·3	182·1	78·0

<sup>1</sup> Pig No. 6, prior to being killed, had been off its food for a little owing to lameness, hence the high percentage of dead weight to live weight.

LOT 2. (Killed 10th January.)

Pig. No.	Live Weight.	Dead Weight.	Dead Weight to Live Weight.
	lb.	lb.	Per cent.
1	256	198	77·3
2	304	236	77·6
3	216	166	76·8
5	235	186	79·1
6	237	186	78·4
7	211	158	74·8
8	212	162	76·4
Average	238·7	184·5	77·2

## AN EXPERIMENT ON FINGER-AND-TOE BY LIMING.

By PROFESSOR JAMES HENDRICK, B.Sc., University of Aberdeen.

IN previous papers<sup>1</sup> in the 'Transactions' some account has been given of experiments which have been carried out in the north-east of Scotland to test the effect of burnt lime and of carbonate of lime upon finger-and-toe in turnips. In these experiments, it was shown that the turnip crop on sour land could be protected to a greater or less extent from the ravages of finger-and-toe by the use of lime in either form, and that at the same time the crop on the limed plots was increased. In the 1918 paper a short account was given of some results obtained in 1916 and 1917 in an experiment carried out at Craibstone, the Experimental Farm of the North of Scotland College of Agriculture. This experiment has been continued until the present date on the same plots, and the results obtained have become more interesting with the passage of time, so it has been considered the time has come when some further account of them might be given.

The experiments at Craibstone have been carried out upon two plots, P and Q, each of which is divided into three strips, numbered 1, 2, and 3. Each plot is one-twentieth of an acre in area, and both plots have been continuously under turnips since 1915, so that the crop of 1922 was the eighth successive crop of turnips grown on these plots.

In 1915 the plots were used in variety trials, P bearing a crop of purple-top yellows, and Q a crop of bronze-top swedes. In both cases a good deal of disease was found in the crops grown, especially at the lower and sourer end of the ground. It was therefore decided that these plots would be suitable for an experiment upon the effect of lime on finger-and-toe. The sub-plot or strip 1 on both P and Q was treated with ground lime; sub-plot 2, the central strip on both P and Q, was left unlimed; while strip 3 in each case was treated with carbonate of lime. Plots P and Q were thus duplicates of one another, P 1 and Q 1 being duplicates

<sup>1</sup> "A Plea for the Increased Use of Lime."—'High. Soc. Trans.,' vol. xxvi. (1914), pp. 218-232. "The Use of Lime in Controlling Finger-and-Toe in Turnips."—'High. Soc. Trans.,' vol. xxx. (1918), pp. 137-145.

treated with ground burnt lime, P 3 and Q 3 being duplicates treated with carbonate of lime, and the central portion of each, P 2 and Q 2, receiving no lime. In every other respect the plots were treated similarly all over. Both received the same manures and the same cultivation.

#### COMPOSITION AND PROPERTIES OF THE SOIL.

The soil, like all those in the neighbourhood, is composed of glacial material derived from granitic rocks. At the start of the experiment it was sour in reaction, especially at the lower end of the plots, where it was sheltered by trees. The trees have since been removed. Tables I. and II. give the mechanical and chemical analyses of the soil, which is not very deep, but passes at a depth of 9 or 10 inches into a panny subsoil.

TABLE I.—MECHANICAL ANALYSIS OF SOIL. PLOTS P. AND Q.

Dried at 100° C.

	Soil. First 9 inches.		Subsoil. Second 9 inches.	
	Plot P. Per cent.	Plot Q. Per cent.	Plot P. Per cent.	Plot Q. Per cent.
Fine gravel . . . .	16·7	17·9	16·85	16·65
Coarse sand . . . .	29·9	28·6	31·25	32·3
Fine sand . . . .	20·45	22·55	21·8	20·6
Silt . . . .	9·35	9·65	7·6	7·75
Fine silt . . . .	8·45	8·2	8·6	9·0
Clay . . . .	1·8	1·7	3·8	3·9
Loss on ignition . . .	12·7	11·85	9·25	8·1
Total . . . .	99·35	98·45	99·15	98·30

The mechanical analysis shows that the soil is gritty and open in texture, and contains little clay. At the same time, as has been shown previously, soils of this type, in which the coarse materials are composed largely of compound silicates, have more coherence than might be expected from the small amount of clay which they contain. The coarser materials, being composed of felspar and other complex silicates, cohere together more than they would were they composed of quartz sand only. As shown by the loss on ignition, the soil also contains a considerable proportion of organic matter, and this helps to make it coherent. The soils from Plots P and Q are quite similar to one another, and the subsoil does not

differ greatly from the surface soil. As the figures show, the subsoil contains more clay than the surface soil and less organic matter.

TABLE II.—CHEMICAL ANALYSES OF SOIL. PLOTS P. AND Q.

Fine Earth. Dried at 100° C.		
	Plot P.	Plot Q.
Loss on ignition . . . . .	12.72	11.86
Sand and insoluble silicates . . . . .	81.60	81.21
Nitrogen . . . . .	.316	.329
Soluble in strong hydrochloric acid—		
Lime . . . . .	.679	.705
Magnesia . . . . .	.402	.447
Potash . . . . .	.327	.324
Phosphoric acid . . . . .	.183	.2055
Soluble in dilute citric acid—		
Probably available constituents—		
Lime . . . . .	.365	.308
Potash . . . . .	.037	.0385
Phosphoric acid . . . . .	.090	.090
Lime requirement, as CaO . . . . .	.269	.288
Carbonate of lime . . . . .	None	None
pH value . . . . .	6.0	6.0

Table II., which gives the chemical analysis, shows that the soil is well supplied with nitrogen, and also with phosphate and potash, and that, as usual in soils of this type, a very large proportion of the phosphate which is present is soluble in dilute citric acid, and therefore in a form which is probably available to plants. A fair proportion of the potash is also in the "probably available" form. The lime and magnesia present are almost entirely in the form of compound silicates, and there is no carbonate of lime present in this soil. Although there is a considerable amount of lime soluble in dilute citric acid, this is derived mainly from easily decomposable silicates. That the soil is sour is shown by the fact that it has a high lime requirement, and that the pH (hydrogen ion) value is low.

#### QUANTITY OF LIME USED.

It was found that much lime had to be added to the soil before the lime requirement was satisfied, and the soil was rendered neutral. Table III. shows the amount of lime per acre applied to 1 and 3 on Plots P and Q. It will be seen that both in the case of the ground lime added to 1 and the carbonate of lime added to 3, large weights of lime per acre were used before the lime requirement was fully met, and the soil was neutralised and contained an excess of carbonate of lime. The ground lime added in certain years was not of

very high quality, and therefore a considerable weight had to be given. Table III. shows the actual weights of active lime,  $\text{CaO}$ , stated in pounds per acre, added to each plot.

TABLE III.—AMOUNT OF LIME APPLIED TO EACH STRIP PER ACRE.

Year.	P 1 and Q 1. Ground Lime.		P 3 and Q 3. Carbonate of Lime.	
	Cwt.	Active $\text{CaO}$ , pounds.	Cwt.	Active $\text{CaO}$ , pounds.
1916 . . . .	28	2265	50	2531
1917 . . . .	33	2287	30	1711
1918 . . . .	23	2376	39	2229
1919 . . . .	34	2265	37	2263
Total . .	118	9193	156	8734

Lime was applied early in the year in each of the years 1916 to 1919. Table III. shows the number of hundred-weights of ground lime applied per acre to P 1 and Q 1, and of carbonate of lime applied to P 3 and Q 3 in each of these years, the total amounts applied being 5 tons 18 cwt. of ground lime per acre to P 1 and Q 1, and 7 tons 16 cwt. of carbonate of lime to P 3 and Q 3. The table also shows the amount of active lime actually applied in each year. The active lime is the amount of lime present as free lime and as carbonate of lime. It will be seen that the total amount of active lime applied in the four years is about 4 tons per acre in each case. The strips which were given ground lime, P 1 and Q 1, received slightly over 4 tons per acre, while those which were given carbonate of lime, P 3 and Q 3, received slightly under 4 tons of active lime per acre.

The first dressing of lime was given early in 1916, and it was supposed that the amount given would be sufficient to satisfy the lime requirement and render the reaction of the soil neutral. The results obtained on the turnip crop of 1916 were given in the previous paper ('Transactions,' 1918), and it was found that the liming had not increased the crop, and had done little to diminish the percentage of disease. The soils were therefore tested again, and it was found that they had still a considerable lime requirement, and that very little of the lime that had been applied was still to be found in them in an available state. The soils had absorbed practically the whole of the lime given to them without becoming much less sour. A further dressing of lime was given, therefore, early in 1917. The results obtained with the crop of 1917



were given in the 'Transactions,' 1918, pp. 141, 142. It was again found that the portions which were limed gave crops very similar in weight to those obtained on the unlimed portions, but that there was considerably less disease on the portions limed both with ground lime and carbonate of lime. Samples of the soil were again drawn after the crop was removed, and it was found that on both P and Q the limed portions had again absorbed most of the lime applied, and were still somewhat sour. A third dressing of lime was therefore given early in 1918. The results obtained from the crops from 1918 onwards are given in the Tables V. to VIII. in this paper.

The soils were again tested after the crop had been removed in 1918, and though it was found that all the limed portions now contained an appreciable amount of carbonate of lime, it was also found that they still showed a small lime requirement, especially in the case of Plot P. The lime requirements on P 1 and P 3 were much less than the lime requirement of P 2, which had received no lime, but were still appreciable. On the other hand, Q 1 and Q 3 had no lime requirement, while Q 2 showed almost the same lime requirement as P 2. The sourness on Plot Q had therefore been more easily neutralised than that on Plot P. It was, however, decided to give another dressing of lime, and accordingly the amounts shown on Table III. were given early in 1919.

Samples of soil were again drawn in 1922. It was found that the limed portions of P and Q contained the amounts of carbonate of lime shown in Table IV. In the table the amount of lime in the surface soil, 9 inches deep, is calculated as effective lime in pounds per acre. This shows that the great part of the lime applied to the soil has been absorbed by the soil or has disappeared in the drainage; at any rate, it is no longer there in the effective form of carbonate of lime. As shown in Table III., about 9000 lb. of effective lime per acre was applied. This has fallen to about 3000 lb. per acre in the case of P 1, and 4000 lb. per acre in the case of Q 1.

TABLE IV.—CARBONATE OF LIME CONTAINED IN SOIL SAMPLES DRAWN IN 1922.

Plot.	Carbonate of Lime.	Equal to Lime (CaO).	Amount of Effective Lime in soil 9 ins. deep.
	Per cent.	Per cent.	lb.
P 1	·23	·129	3000
P 3	·26	·146	3400
Q 1	·32	·179	4000
Q 3	·28	·157	3600

The hydrogen ion value (pH) was also determined in samples drawn in 1922. It was found to be 6.0 in the case of P 2 and Q 2, which received no lime, but in the limed portions it varied from 7.0 to 7.2. These figures show that effective neutrality had been obtained in the case of the limed portions of the soil, but that the unlimed portions were appreciably acid.

The figures given above show that in order to produce excess of lime and to remove sourness, large quantities of lime, either as carbonate of lime or as burnt lime, have to be applied to soils such as this. They also indicate that much of the lime which is at first applied is absorbed by the soil, and does not remain long in the soil as carbonate of lime.

#### THE RESULTS DURING THE YEARS 1918-1922.

The results obtained during the years 1918-1922 are summarised in Tables V., VI., and VII., and the figures 3 to 6 show the appearance of the plots in the seasons 1918 and 1922. Table V. gives the weight of bulbs per acre obtained from the limed and unlimed portions of P and Q, and shows that in each year and on both P and Q the weight of bulbs per acre was much greater from the portions which received lime, whether in the form of ground lime or in the form of carbonate of lime, than from the portions which received no lime. On the average, the crop from the limed portions is nearly twice as great as the crop from the unlimed portions. On the average of both P and Q there is little difference between the ground lime and the carbonate of lime, though the results are, on the whole, slightly in favour of the carbonate of lime, especially in the case of P.

But for the liming the different strips were treated equally in all other respects each year. The whole area of both P and Q was manured in alternate years with farmyard manure, and every year a dressing of artificial manures at the following rate per acre was given :—

Sulphate of ammonia	.	.	.	.	$\frac{1}{2}$ cwt.
Superphosphate	.	.	.	.	2 "
Steamed bone flour	.	.	.	.	1 $\frac{1}{2}$ "
30 per cent potash salt	.	.	.	.	1 "

The plots were treated alike with regard to cultivation. No precautions were taken to remove infected material from them each year when the turnip crop was raised ; the remains of diseased and rotted turnips were left on all the plots, and supplied copious infection for the next year.

In the cultivation of the plots a little lime was unavoidably carried from the limed sections, P 1 and P 3, Q 1 and Q 3, into

TABLE V.—WEIGHT OF BULBS PER ACRE.

	P.			Q.			Average of P. and Q.		
	Ground Lime.		Carb. of Lime.	Ground Lime.		Carb. of Lime.	Ground Lime.		Carb. of Lime.
	No Lime.			No Lime.			No Lime.		
	Tons.	Cwt.	Tons.	Cwt.	Tons.	Cwt.	Tons.	Cwt.	Tons.
1918	6	5	9	2	4	4	7	14	3
1919	14	2	16	0	11	0	15	1	10
1920	15	12	18	1	9	14	15	5	9
1921	11	13	12	3	7	4	11	7	6
1922	14	12	14	12	11	12	13	1	4
Average, 5 years.	12	9	14	0	12	11	12	10	6
									17
									13
									2

TABLE VI.—NUMBER OF BULBS PER ACRE.

Date of Lifting.	P.			Q.			Average of P. and Q.		
	Ground Lime.		Carb. of Lime.	Ground Lime.		Carb. of Lime.	Ground Lime.		Carb. of Lime.
	No Lime.			No Lime.			No Lime.		
	Tons.	Cwt.	Tons.	Cwt.	Tons.	Cwt.	Tons.	Cwt.	Tons.
1918. 7th Dec.	20,820	10,140	25,680	21,360	12,420	25,980	21,080	11,280	25,880
1919. 13th Dec.	25,800	27,120	29,760	23,460	29,880	19,680	24,630	28,500	24,720
1920. 20th Nov.	31,740	27,660	21,020	33,000	30,600	33,480	32,400	28,680	32,280
1921. 3rd Dec.	31,860	27,840	34,380	32,460	29,220	33,240	32,160	28,580	33,810
1922. 18th Nov.	28,920	18,660	32,820	30,900	12,420	29,460	29,840	15,540	31,140
Average, 5 years.	27,828	22,104	30,732	28,236	22,908	28,368	28,082	22,506	29,550

the unlimed sections, P 2 and Q 2, and therefore it was always found that outside drills of the unlimed sections were a little better than the inside drills, being partially limed from the adjoining well-limed sections.

It was found in every year that the crops grew equally well on each section for the first few weeks. Then suddenly, about July or August, the crop on the unlimed portion would begin to go off, and soon became a marked contrast to the crops on the adjoining limed portions. This is well illustrated in Figs. 3 to 6, which are taken from photographs. Figs. 3 and 4 show P and Q in October 1918; in each case the unlimed portion is in the centre with the limed portions on each side of it. Figs. 5 and 6 show P and Q in November 1922, when the photographs were taken after a slight fall of snow. It will be seen that on the unlimed portions, in both years, the shaws have almost completely gone off, and that many of the bulbs have completely rotted away. This is markedly the case on Plot P in 1918, Fig. 3, and Plot Q in 1922, Fig. 6.

Table VI. gives the number of bulbs per acre on each strip of Plots P and Q. In every year except 1919 the number of bulbs remaining at the date when the crop was raised was much greater on both the limed portions than it was on the portions which received no lime. On the average of the five years, it will be seen that both on P and Q the number of bulbs is much greater on the portions which receive ground lime or carbonate of lime than on the portions which received no lime. This was because many of the bulbs had rotted away and completely disappeared on the unlimed portions before the crop was raised, and therefore many blanks were found on them. The crop was planted each year in twenty-six-inch drills, and thinned and hoed in the usual way.

In estimating the number of bulbs on each plot all the bulbs which were left at the time the crop was raised were counted, whether they were diseased or not, even bulbs which were so rotten that they could hardly be lifted were counted so long as they were present. The deficit found on the unlimed portion therefore is accounted for by bulbs which had completely disappeared.

#### AMOUNT OF DISEASE ON THE PLOTS.

In each year the amount of disease on each section of the plots was carefully estimated at the time the crop was lifted. Each bulb was lifted separately and examined, and placed into a category according to whether disease was found on it or not, and if diseased, it was classified according to the amount of disease present. This work was done by a party of senior students, who were able to get through the whole

Fig. 3.—Plot P, 1918.



Carbonate of Lime.

No Lime.

Ground Lime.

Fig. 4.—Plot Q, 1918.

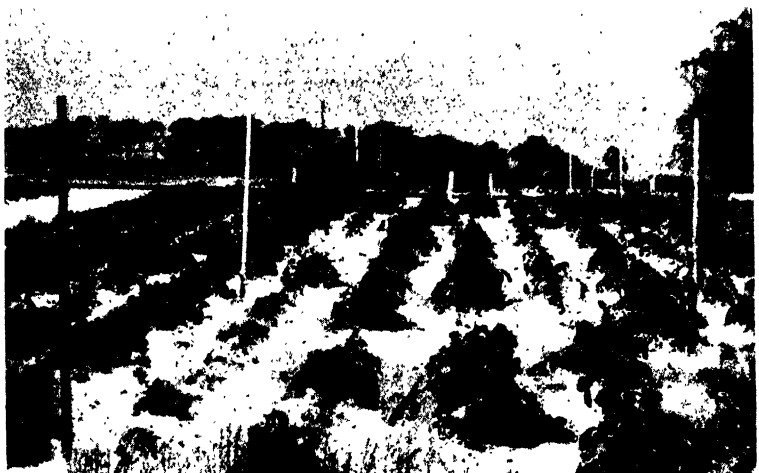


Carbonate of Lime.

No Lime.

Ground Lime.

Fig. 5.—Plot P, 1922.



Carbonate of Lime.

No Lime.

Ground Lime.

Fig. 6.—Plot Q, 1922.



Carbonate of Lime.

No Lime.

Ground Lime.

of the examining, counting, and weighing of the bulbs in one day. The bulbs were divided into the following classes, as shown on Table VII. "Sound," or those on which no sign of finger-and-toe could be seen; "slightly diseased," where the nodules of the disease were on the roots, or, if the bulb was diseased at all, it was only slightly infected, and the diseased parts had not rotted; "badly diseased," where the bulb itself had much disease upon it, and, generally speaking, was beginning to rot; "rotten," where the bulb was badly rotted with the disease. In Table VII. complete details are given of the classification of the bulbs according to this system in each year, and the average for the five years.

It will be seen that in each year there was a considerable amount of disease on all the plots whether limed or unlimed, but the amount of disease varied from year to year; for instance, in 1920 there was much less disease than in 1922.

The results given in Table VII. further show that in every year, and on both P and Q, there were far more sound bulbs on the limed portions than on the unlimed portion; but that, on the other hand, there were far more badly diseased and rotten bulbs on the unlimed portion than on the limed portions. Generally speaking, the amount of disease was far greater on the unlimed portions than on the limed portions, and at the time the crop was raised the diseased bulbs were in a much worse state on the unlimed than on the limed portions.

In 1922 a slight modification was introduced into the experiment. Disease-resisting varieties of turnips were planted on Plot P, while ordinary varieties were planted on Plot Q. In the four preceding years Plot P had always been more badly diseased than Plot Q. The opposite was the case in 1922. The disease-resisting varieties had certainly resisted disease to a small extent, and therefore, while there were no sound bulbs on the unlimed portion of Q, there were a few sound bulbs on the unlimed portion of P. On the other hand, nearly three-quarters of the bulbs on the unlimed portion of Q were rotten, whereas in the case of P it was only a half. This little extension of the experiment indicates that disease-resisting varieties do to a small extent resist the disease, but that they are by no means immune. When exposed, as in this case, to severe infection, they nearly all succumb to the disease, and give a result which is only slightly better than that given by ordinary varieties.

#### EFFECTS OF LIME ON SOILS OF CRAIBSTONE TYPE.

There are many soils in Scotland which to a greater or less extent resemble that of Craibstone. The chemical and other pro-

TABLE VII.—EFFECT OF LIME ON AMOUNT OF DISEASE.

	P.				Q.				Average of P. and Q.			
	Sound.	Slightly Diseased.	Badly Diseased.	Rotten.	Sound.	Slightly Diseased.	Badly Diseased.	Rotten.	Sound.	Slightly Diseased.	Badly Diseased.	Rotten.
1918												
Ground Lime . . . . .	57.0	21.0	15.5	6.5	70.5	19.6	7.5	2.4	63.8	20.3	11.5	4.4
No Lime . . . . .	21.3	32.5	26.0	20.2	14.0	32.3	35.2	18.5	17.3	32.4	31.1	19.2
Carbonate of Lime . . . . .	60.5	25.0	9.8	4.7	74.1	18.0	6.0	1.9	67.3	21.4	7.9	3.4
1919												
Ground Lime . . . . .	36.2	32.3	15.8	15.7	59.3	20.2	12.5	8.0	47.3	26.6	14.2	11.9
No Lime . . . . .	9.0	22.4	30.8	37.8	11.8	32.8	29.7	25.7	10.5	27.8	30.2	31.5
Carbonate of Lime . . . . .	34.4	47.2	9.1	9.3	51.9	31.0	11.6	5.5	41.4	40.8	10.0	7.8
1920												
Ground Lime . . . . .	66.3	19.3	7.2	7.2	81.8	11.4	5.5	1.3	74.0	15.4	6.4	4.2
No Lime . . . . .	13.2	25.3	18.9	42.6	20.2	27.1	27.4	25.3	16.7	26.2	23.2	38.9
Carbonate of Lime . . . . .	70.6	16.8	5.8	6.8	85.5	11.1	2.2	1.2	78.0	14.0	4.0	4.0
1921												
Ground Lime . . . . .	47.8	29.6	12.8	9.8	73.9	20.0	3.3	2.8	60.9	24.8	8.0	6.3
No Lime . . . . .	3.9	21.1	22.4	52.6	7.8	42.9	20.5	28.8	5.9	32.3	21.4	40.4
Carbonate of Lime . . . . .	75.6	17.1	3.5	3.8	71.6	23.1	3.1	2.2	73.8	20.0	3.2	3.0
1922												
Ground Lime . . . . .	26.1	21.8	30.1	22.0	20.8	22.0	39.2	18.0	23.4	21.9	34.2	19.8
No Lime . . . . .	3.9	13.5	33.5	49.1	0.0	2.9	23.7	73.4	2.3	9.3	29.5	58.9
Carbonate of Lime . . . . .	36.6	23.6	26.0	13.8	31.5	30.1	30.6	7.8	34.2	26.7	28.1	11.0
Average, 5 years—												
Ground Lime . . . . .	46.7	24.8	16.3	12.2	61.2	18.6	13.6	6.6	53.9	21.8	14.9	9.4
No Lime . . . . .	10.3	23.0	26.3	40.4	10.7	27.6	27.8	34.4	10.5	25.6	27.1	36.8
Carbonate of Lime . . . . .	55.5	25.9	10.8	7.8	62.9	22.7	10.7	3.7	58.9	21.6	10.6	5.9



perties of such soils have been dealt with more fully elsewhere.<sup>1</sup> These soils are characterised by the fact that they contain a considerable amount of finely-powdered felspar and other compound silicates, which have undergone very superficial weathering only; they therefore contain in these silicates large reserves of lime, magnesia, soda, and potash in insoluble forms. Soils in many other districts—the south and east of England, for instance—are composed of materials which have been very completely weathered, so that most of the reserves of the bases—lime, magnesia, soda, and potash—have been removed, and when such soils contain a supply of available basic material, it is generally in the form of carbonate of lime. On the other hand, Scottish soils of the Craibstone type contain no carbonate of lime, but have a supply of slowly available basic material in the form of the compound silicates already mentioned.

The peculiar state in which this supply of basic material is present in such soils gives them certain distinctive characteristics. In the case of Craibstone the soil is distinctly sour, but although it is known that it has not been limed for many years, it continues to grow good crops, and does not show certain of the indications of extreme lime hunger. Generally speaking, it is found, for instance, that the application of lime does not increase grain crops, and seems to have little effect upon grass and clover. Clovers, both red and white, grow well upon the soil, and the use of lime does not appear to be of any distinct advantage to them. On the other hand, weeds which flourish on sour soils, and in the absence of sufficient lime, such as spurry or yarr, are plentiful, and turnip crops grown on such soils are very liable to suffer from finger-and-toe.

There are many soils on which the application of a comparatively limited amount of lime is sufficient to cure acidity; but on Craibstone soil, although the acidity is not high, a large quantity of lime has to be used before it is completely neutralised. When lime was applied in 1916 to portions of Plots P and Q, it was applied in such amounts as was considered sufficient to neutralise any acidity present, and to satisfy the lime requirement of the soil. It was found, however, as stated earlier in this paper, that the lime appeared to be absorbed by the soil without removing the acidity and without satisfying the lime requirement, and it was necessary to give second and third dressings of lime before the lime requirement was satisfied and the soil was rendered really neutral. It was only when such neutrality was reached that

<sup>1</sup> "Studies of a Scottish Drift Soil." By W. G. Ogg, B.Sc., and James Hendrick, B.Sc. Part I. 'Journal of Agricultural Science,' vol. vii. (1916), pp. 458-469. Part II. 'Journal of Agricultural Science,' vol. x., pp. 53-62. Part III. 'Journal of Agricultural Science,' vol. x., pp. 63-77.

the amount of disease in the turnips was seriously diminished, and that finger-and-toe was really held in check.

There are many districts in Scotland with soils of this type where liming has been practically given up for many years. As grain crops and pasture crops of grass and clover do not seem to suffer greatly, farmers have often come to believe that lime is not much required. On the other hand, however, such soils frequently suffer severely from finger-and-toe in turnips and from the prevalence of weeds like yarr. If such land is to be thoroughly restored to condition, and to be freed from the scourge of finger-and-toe in turnips, small dressings of lime are insufficient; either repeated small doses will require to be given, or one or more heavier dressings, such as were given to the limed portions of Plots P and Q.

In my previous paper in the 'Transactions,' 1918, reference was made to the experience of Mr James Kidd, Mains of Erroll, on a field on New Farm, Erroll. On that field turnips had been grown continuously every year for over twenty years, and the whole turnip supply of the farm was obtained from that one field. The turnips are perfectly healthy, and this result is obtained by the free use of lime upon the field, a dressing of lime being given nearly every year. Mr Kidd has been good enough to inform me that he still continues to grow turnips every year upon this field, which has now grown turnips every year for nearly thirty years. He states that in 1922 he had "excellent results—in fact, the soundest and best crop I ever had, calculated at 30 tons per acre, and free from disease." He further states that he continues the treatment as before. An account of this treatment was given in the 1918 paper.

#### SUMMARY.

The experiments carried out on Plots P and Q at Craibstone illustrate the effect of lime on finger-and-toe in turnips when the conditions are specially favourable to the disease. There was a considerable amount of disease in the crop grown on this soil in 1915; turnips have been grown upon the land every year since; mass infection has been produced by leaving plenty of diseased material upon the plots every year; dung and sour artificial manures such as superphosphate and sulphate of ammonia, all of which are favourable to the increase of the disease, have been used upon the plots each year; yet it has been found that by neutralising the acidity of the soil and giving a moderate excess of lime, the disease can be held in check. The results of the experiments clearly show that it is not cured. Year after year there is disease upon the limed soil as well as upon the unlimed, but whereas

on the unlimed portion the crop is very seriously diminished, and in some cases completely destroyed, it is so far kept in control on the limed plots that a fair crop is obtained from year to year. As the soil is a very poor one, the crop is never very big, but the difference between the limed and unlimed soil is that on the unlimed soil the crop is rotten with disease, whereas on those portions which have been limed, either with carbonate of lime or with ground lime, a large proportion of the bulbs are fit for use. Many of these bulbs may be more or less touched with the disease, showing that plenty of infection is present, but in only a few cases does the disease get the upper hand and completely destroy the bulb. The conclusion to be drawn from these experiments is that finger-and-toe can be kept in control by sufficient use of lime. It is for the farmer to decide whether the result obtained is sufficient to repay him for the cost of the treatment.

## RED POLL CATTLE.

### THEIR HISTORY, CHARACTERISTICS, AND CAPABILITIES.

By DAVIS BROWN, M.A., J.P., Marham Hall, Norfolk, President of the  
Red Poll Cattle Society.

THE origin of Red Polls, like that of most breeds of cattle in this country, is lost in the mists of history. One cannot assert, for instance, with any assurance of accuracy, that they were the breed of cattle which came out of the Ark ; but that they have been a distinct and well-defined breed in the counties of Norfolk and Suffolk, to which counties they are indigenous and from which they originally sprang, for something like two hundred years past, is a matter of recorded history. We find Arthur Young, in the latter part of the eighteenth century, describing the breed in Suffolk as being "universally polled—that is, without horns,"—and from the files of the 'Norwich Mercury' of the same period have been extracted Michaelmas Sales advertisements of whole dairies of polled cows in Norfolk, from which it may be fairly deduced that herds of polled cattle must have been in existence in those counties for many years before the period mentioned.

In the earliest years of the nineteenth century many dairies of polled cows were offered by auction up and down the county of Norfolk. At the same period three well-known farmers in that county—Mr Reeve of Wighton, Mr England of Binham, and Mr George of Eaton—co-operated to improve the native polled cattle by selection, and it was owing very much to their efforts, and to the skill which they displayed in their undertaking, that the present-day type of Red Poll was evolved. From the records of that time there is little doubt that they imported bulls from Suffolk, and that from their herds bulls were exported to Suffolk. Thus began that commingling of the blood of the native polled cattle of these counties from which has been produced the Red Poll as we know it to-day, a process which was much extended when, in the middle of the century, classes were established for Red Polled cattle at the agricultural shows of each of these counties, and breeders from each county competed at them. The result of this commingling of the blood of the native polled cattle of those counties, and of the emulation occasioned by the exhibition

of the cattle so produced, was to effect such an improvement in the cattle themselves that, after the lapse of a quarter of a century, the principal breeders of them awoke to the fact that, if the purity of the breed was to be maintained, it would be necessary to have their cattle registered, and for that purpose to establish a Herd Book for the breed. Thus it was that in 1873 the decision to establish such a Herd Book was taken, mainly at the instigation of the late Mr Henry F. Euren of Norwich, who collected from breeders the necessary information for that purpose, collated it, and published in the succeeding years the first four volumes of the Herd Book entirely at his own risk. Previous to the publication of the fifth volume of the Herd Book, in the year 1888, the Red Poll Cattle Society was formed, and took over from Mr Euren the copyright of the first four volumes. The Society since that date has issued a volume of the Herd Book annually, Mr Euren acting as Secretary to the Society and Editor of the Herd Book during the period in which the next eight volumes of the book were published.

To Mr Euren all Red Poll breeders owe an untold debt of gratitude for the exertions which he made in establishing a Herd Book for the breed, for the untiring effort which he put into the publication of many successive volumes, and for the work he did in the interests of the breed in many other ways. Without that exertion and effort on his part it is very doubtful if the breed would have been maintained as a separate and distinct one, and it is perfectly certain that without that exertion and effort it never could have attained to the prominent position which it now occupies amongst the established breeds of cattle in the United Kingdom.

The result of the establishment of a Herd Book for the breed was definitely to fix the type, and by degrees, as their excellent qualities became better known, to cause such a demand for Red Polls to spring up that, instead of the breed being confined to the two counties of Norfolk and Suffolk, it has now spread all over England, and has advanced into Scotland. Herds of the breed have also for many years been established in Ireland, and several of such herds are in existence in South Africa. In the United States of America, in Australia, and New Zealand there are so many herds in existence that in each of those countries and Dominions Red Poll Cattle Societies have sprung up and have established Red Poll Herd Books of their own. As a matter of fact, there are at the present moment more Red Poll cattle in the U.S.A. than there are in this country.

That such a great expansion as that noted above should have taken place since the establishment of the Herd Book is in itself evidence that the breed must possess some excellent qualities. As the writer has heard it remarked in

another connection, those who have consistently bred the cattle for many years past, as well as those who have bought and bred them and continue to do so, cannot all be fools. There must be some amongst them, probably many, capable of judging of the qualities and characteristics of different breeds of cattle.

This article, however, is not in any way written for the purpose of decrying the good qualities of other breeds of cattle, but simply for the purpose of drawing the attention of the public, and in a special degree the public of Scotland, to such of the excellent qualities of Red Polls as may recom-

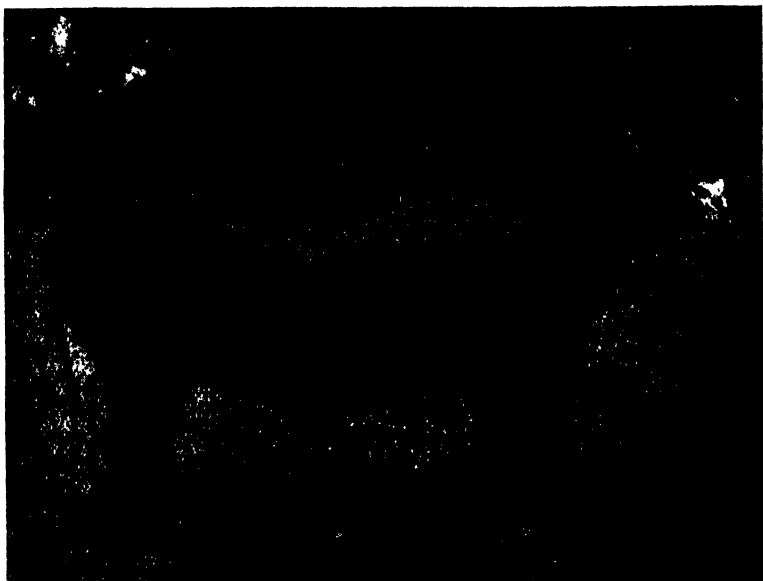


Fig. 7.—*Red Poll Bull.*

mend them to their favour. Nor is it in any way written for the purpose of advertising particular herds of Red Poll cattle, and therefore the photographs with which it is illustrated are simply those of animals drawn from different herds, which may fairly be taken as being typical of the breed at various ages.

The writer has had close upon fifty years' experience in the breeding of Red Polls, and it has always been a matter of surprise to him that the breed has not, until recent years, been more in favour with the ordinary farmer. Quite irrespective of "pedigree" prices, he has always found them a paying proposition from the commercial point of view.

The main excellence of Red Polls, and that which should most commend them to public favour, is their dual purpose characteristics. To combine in the same bovine animal the capacity to produce a large quantity of milk of good quality, and at the same time to breed steers which will fatten rapidly, attain good weights, and give the finest quality of beef, is a difficult task for any breeder to accomplish. There is abundant evidence to prove, however, that it has been accomplished by the breeders of Red Polls, and, further, that such qualities are to a great extent inherent in the breed, though naturally more fully developed in some individuals than in others.

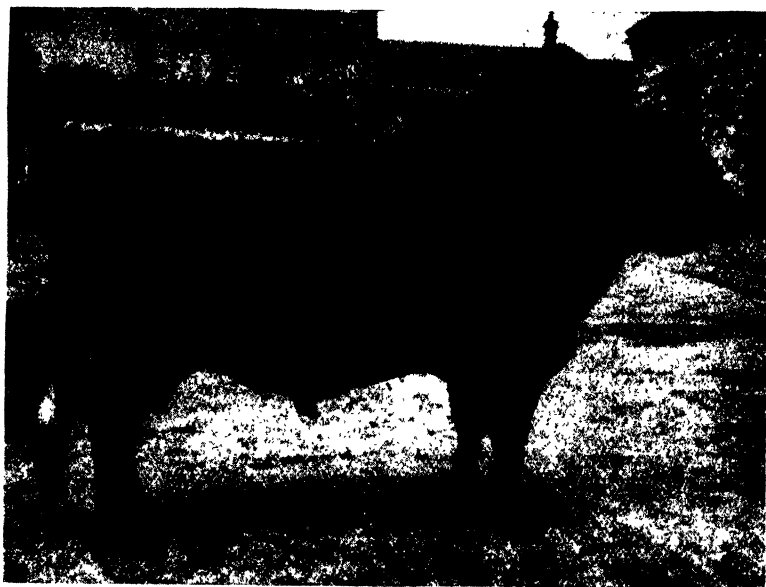


Fig. 8. — *Red Poll Two-year-old Bull.*

In addition to their dual purpose characteristics, Red Polls possess many other qualities which should, and do, commend them to public favour. Amongst these may be mentioned their longevity, their persistency in milk yielding, the excellent quality of their milk, their hardiness, their capacity for doing well on poor pastures, of laying on flesh quickly and of maturing at an early age, the small amount of artificial food which they require to keep them in good condition and to maintain their milk-yielding properties, together with the age to which the bulls of the breed can be successfully used. These qualities combine to make them a class of cattle to be sought after by breeders of all classes, whether large or small, whether the

object of such breeders be the production of milk or beef or a combination of the two. In addition, there is no class of cattle which presents a more handsome appearance than they do in a country gentleman's park, with their clean heads, beautiful conformation, deep bodies, rich red colour, and well-formed dugs. They make in such a case an excellent setting to their surroundings, and one well calculated to gladden the eye of the connoisseur and of any one who has an eye to artistic effect or to the beauties of nature.

It is not enough, however, simply to make these assertions as to the qualities of the breed, although the writer, from long



Fig. 9.—Red Poll Yearling Bull.

experience, can bear witness to the correctness of them. It is necessary, in order to convince others that these assertions are correct, to produce proof.

With regard to the dual purpose characteristics of the breed, breeder after breeder can give evidence of the production of steers, feeding up to good weights and producing the finest quality of beef, from deep-milking cows. Striking illustrations of the capacity referred to may be drawn from the records of the Smithfield Club. It was only last year (1921) that classes for certain breeds, amongst others Red Polls, were established at the shows of that Club for steers under 15 months of age, commonly known as "baby-beef"



classes. At that first exhibition of classes of that kind it was generally allowed that the exhibit of Red Polls was one of the features of the show, a fact which goes far to prove the early maturing nature of the breed as well as its dual purpose characteristics. The winning steer in that class, at the age of 1 year, 1 month, and 3 weeks, weighed 8 cwt. 1 qr. 20 lb.; and the butcher who killed him wrote of his carcass as follows: "A lovely body of beef! Absolutely perfect! Good fat and suet." Further, the steer in question was sired by a bull out of a 900-gallon cow, and was himself out of a 750-gallon cow, while his grandsire was out of a 1000-gallon



Fig. 10.—Red Poll Two-year-old Steer.

cow, and his grandam was an 1100-gallon cow. A more striking illustration of the early maturing and dual purpose characteristics of the breed it would be hard to find, although similar features were observable in the same class this year (1922). Particularly was this the case with regard to one of the prize-winning animals which, at the age of 11 months and 1 day, scaled 7 cwt. 1 qr. 21 lb., and was the produce of an 800-gallon cow. In addition, the winner of the Breed Cup this year was the produce of a 900-gallon cow. The records of three winners of the Breed Cup for Red Polls at Smithfield in previous years afford excellent examples of the duality of the breed. The first of these, a heifer, won the Cup

in 1912, her weight at the age of 2 years, 8 months, and 1 day being 14 cwt. 2 qr. 20 lb. She was sired by a bull which twice won the Championship at the Royal Agricultural Society's Shows, and was the produce of a cow which in seven successive years gave an average of 7182 lb. of milk. The second of these, a steer, won the Cup in 1915, his weight at the age of 2 years, 10 months, and 6 days being 16 cwt. 2 qr. 8 lb. He was sired by a Royal Champion bull, and was the produce of a cow that in eleven successive years gave an average of over 8000 lb. of milk, her yield in one of those years being 11,588 lb. The third of these, also a steer, won the Cup in 1919, his weight at the age of 2 years, 9 months, and 3 days



Fig. 11.—*Red Poll Cow.*

being 13 cwt. 10 lb. He was sired by a bull which was Reserve Champion at the Royal, and was the produce of a cow which during the last three years has given an average of considerably over 8000 lb. of milk annually. Naturally these are exceptional records, but many more similar ones might be adduced as evidence of the dual purpose characteristics of the breed. For example, one of the prize winners in the class for steers under two years old at the Smithfield Club Show last year, which hailed from the Sandringham herd of H.M. the King, through his sire traces back to that great milk-yielding cow Flaxmoor Ruby, which exceeded 10,000 lb. of milk at 18 years of age, and which averaged 12,500 lb. for eleven years. Again, another steer, which was second at the

Norwich and the Smithfield Club Shows in 1921, was the produce of a cow which in that year yielded 10,351 lb. of milk. The steers and heifers so bred are invariably highly spoken of by the butchers who purchase them. A Kent butcher, who purchased the 1921 breed champion at Smithfield, a heifer, wrote of her that she made a perfect carcase. Messrs Barwell & Co., a leading firm of meat purveyors in Bury St Edmunds, have testified with regard to the excellence of steers and heifers of the breed not bred for exhibition: "As a butcher's beast the Red Poll is equal in all respects to any breed of cattle, and as a suet carrier it stands unrivalled." Messrs

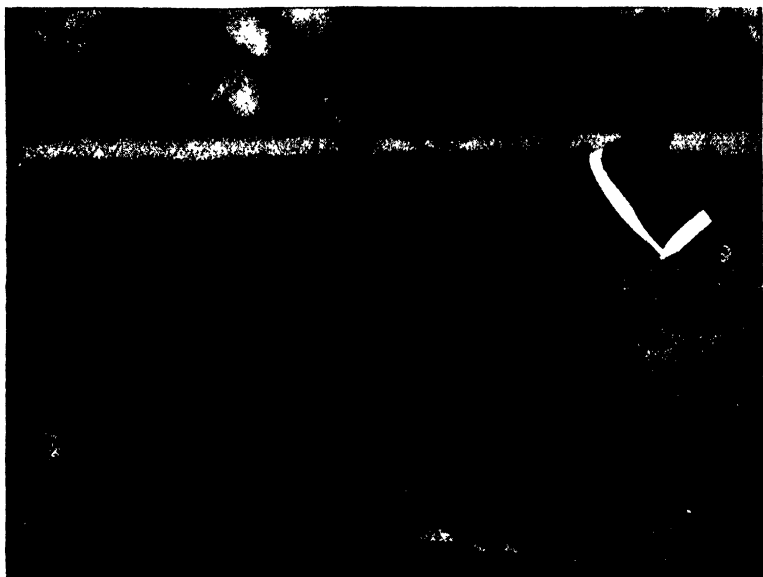


Fig. 12.—*Red Poll Three-year-old Heifer.*

Simpson & Sons, a leading firm of auctioneers in the county of Suffolk, have written on the same subject: "Red Poll steers, when thoroughly ripe and 2 to 2½ years old, have always been eagerly competed for by the butchers attending our sales, and without question they have realised the highest price per stone of any cattle. The butchers say that there is a great demand for joints from these cattle in consequence of their not being too big, while at the same time they are of the best quality." Another typical instance of the duality of Red Polls is the case of the old cow Flutter, which in eleven consecutive years gave an average of over 8000 lb. of milk, and in two of those years yielded over 10,000 lb.; and

whilst doing so bred, amongst others, six calves, which were prize winners at the R.A.S.E. Shows, her last calf having been a winner at the shows of that Society in each of the last three years.

The instances given above afford ample proof of that duality which is claimed as the outstanding feature of the Red Poll breed, but, in addition, the breed can well hold its own from a purely dairy point of view. Striking illustrations of this fact were given at the London Dairy Show in 1919, where the cow Gressenhall Southgate 6th won 1st in milking trials, 3rd for inspection, and Lord Bledisloe's Cup. In the same



Fig. 13.—*Red Poll Yearling Heifer.*

year Sudbourne Minerva won 1st for inspection, 2nd in milking trials, and the Spencer Cup, this Cup being given for the cow gaining the greatest number of points by inspection, milking trial, and butter-fat test. Again in 1920 Gressenhall Southgate 6th, at the Bath and West Show, won 1st in the milk-yield class against all breeds. In 1921 a cow from the Sudbourne herd won 1st in the milking trials at the Royal Show against all breeds, and in the same year Kettleburgh Rosie 2nd D, which was Reserve Champion at the Royal, beat all breeds in the open milking trials at both the Sussex and South-Eastern Counties Shows. In the same year the cow Gressenhall Molly won the Championship of all breeds

in the milking trials at the Royal Show at Derby. To go further back, the cow Russett won, at the London Dairy Show in 1897, 1st inspection, 1st milking trials, and the President's Cup; whilst in 1914 Sudbourne Minnie won 2nd inspection, 1st milking trials, the Lord Mayor's Cup, the Barham Cup, and was reserve for the Shirley Cup.

Naturally these are somewhat exceptional instances of the milking capacity of Red Polls, but they serve to demonstrate what can be attained by a dual purpose breed considered from a purely dairy point of view. What, however, is of far greater value than the performances of exceptional animals

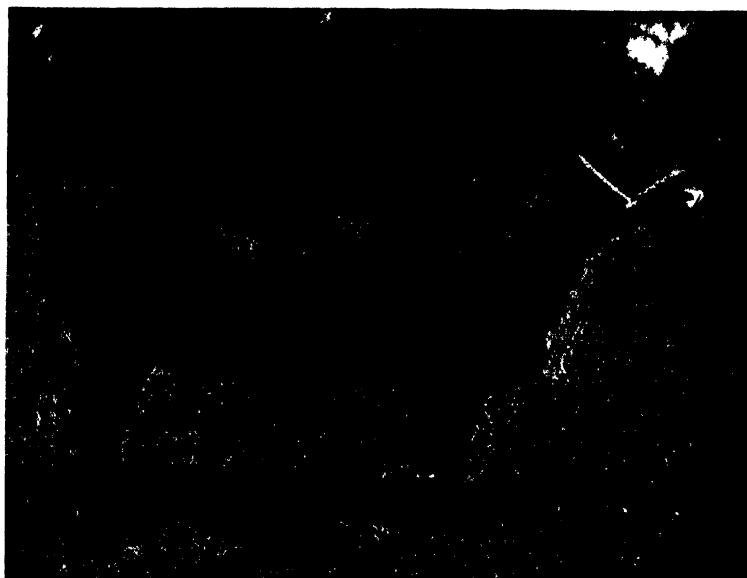


Fig. 14.—*Red Poll Two-year-old Heifer.*

is the test of whole herds taken from the milk records of the Milk Recording Societies. From these it appears that many herds of Red Poll cattle yield an average of 8000 lb. of milk and upwards annually, as for example that of the Framlingham herd, which last year averaged 8600 lb.; the Seven Springs herd, with an average in the same year of 8100 lb.; the Mendham herd, with 8360 lb.; and the Lichfield herd, with 9647 lb.

The performances of individual animals in some of the different herds are also worthy of mention, as illustrating that the dairy capabilities of the breed are by no means confined to a few selected animals or to a few individual herds. Taking first the Sudbourne herd, which was dispersed in 1918: eleven

of the cows then catalogued had been awarded prizes at the London Dairy Shows, and had given milk yields varying from upwards of 10,000 to upwards of 15,000 lb. in the year. At the dispersal sale of the Harefield herd in the same year, fifteen of the cows then sold had yielded in that year from close upon 9000 to approaching 14,000 lb. each. Thirteen of the cows sold at the sale of the Gressenhall herd, which was dispersed in 1919, had a yield in that year of from over 8000 to over 10,000 lb.; and at the Easton dispersal sale in 1921, thirteen of the cows there sold had given yields of from 7000 lb. upwards to more than 13,000 lb. in the year. At each of these sales the cows referred to comprised by far the larger number of those offered, and in some cases even included heifers.

In further proof of the dairy capabilities of the breed the performances of some noted individuals are well worthy of record, such as those of Linda 3rd, which gave an average of 9619 lb. for ten years; Acton Fillpail, with an average of 10,293½ lb. for three years; Rendlesham Fay, with 11,000 lb. for five years; Kettleburgh Rosie 1st, with over 11,000 lb. for ten years; Kettleburgh Ruby V., with over 10,000 lb. for five years; Flaxmoor Ruby, with 12,500 lb. for eleven years; Gemma, with 8500 lb. for fifteen years; Pansy, with over 8000 lb. for eleven years; Sudbourne Minerva, with just upon 11,000 lb. for five years; Gressenhall Peggotty and Gressenhall Rosanna, with just upon 9000 lb. each for three years; Gressenhall Molly, which gave over nine gallons of milk in a day, and exceeded 18,000 lb. in one lactation.

The following further examples of milking capacity are culled from the Milk Records of the herds recorded in the last three volumes of the Red Poll Herd Book, the records in each case being those for the period of one year given in lb.—viz., Longford Fairy, 10,623¼; Shrew, 10,302½; Lichfield Rosiebud, 10,789; Lichfield Roseleaf, 11,296¾; Lichfield Redrose, 10,508½; Kettleburgh Rosie 4th A. 1., 12,082¼; Stowupland Lilac, 10,468¾; Stowupland Columbyne, 10,907; Ashmoor Mask, 11,503; Ashmoor Summer, 10,381½; Gressenhall Red Rosebud, 12,593½; Sedgemere Snowdrop, 10,390¼; Sotterley Minor, 12,684½; All Saints Fillpail, 12,008¼; All Saints Jewel, 10,902½; Kettleburgh Rosie, 2. C., 12,000½; Kettleburgh Rosie, 2. D., 10,300¼; Basildon Rosalin, 10,235½; Sudbourne Adela, 11,264¾; Worlingworth Crimson Rose, 10,506½; Hatchfield Daisy, 11,474; Harefield Apricot, 10,226; Knepp Cowslip 3rd, 10,340; Knepp Davy, 11,607; Manor Iris, 14,234½; Lichfield Rosebloom, 10,121; Gressenhall Profit, 10,950½; Mend, 11,591; Mendham Blossom, 10,368; Gressenhall Red Rosebud, 11,381; Gressenhall Dairymaid, 12,959¼; Tendring Floss 29th, 11,469. From the same records might be cited those of a great number of cows giving somewhere between 7000 and 10,000 lb. of milk annually, but sufficient

evidence has here been set out to prove that the Red Poll, in addition to its dual-purpose character, can well hold its own from a dairy point of view.

To turn to another characteristic of Red Polls, their longevity and persistency in milk yielding, it is a common experience amongst Red Poll breeders for their cows to milk well and breed regularly up to twelve years of age, and in many cases for longer periods. The writer is rather concerned to substantiate the correctness of the foregoing statement for the purpose of controverting a statement which has been made in the Press to the effect that dual purpose cows are usually sold for beef after having had three or four calves, as they have not the dairy constitution to last as milkers. As proof of its correctness, he has extracted from the private Herd Books of the Marham herd the undermentioned particulars of cows which, besides remaining in the herd for a considerable number of years and being regular breeders, were, to his knowledge, almost without exception, persistent milkers. Some four or five of them, after having completed the records given, were sold for breeding purposes, and so probably actually had more calves to their credit than is shown in these figures.

Name of cow.		Age at birth of last calf.	No. of calves bred.
202.	The Elham Belle N 2	18	17
4.	Alice M 1	14	12
23.	Beatrice N 2	15	13
265.	Helen M 2	13	10
329.	Maggie A 1	14	11
372.	Nelly P 1	11	9
957.	Jane I 2	12	10
972.	Kathleen A 4	14	12
973.	Katinska A 4	14	11
1,504.	Faith P 3	13	10
1,729.	Pensive P 1	16	13
2,065.	Chantress A 4	15	12
2,191.	Flame P 3	14	11
2,197.	Fragrance P 3	13	11
4,556.	Flute P 3	12	10
4,957.	Ione I 2	13	10
8,531.	Festal P 3	12	10
8,821.	Patience P 1	12	10
16,643.	Firelight P 3	13	11
17,376.	Plume P 1	13	10
18,046.	Flutter P 3	18	13
18,784.	Passion P 1	12	9
20,473.	Pansy P 1	13	11
20,487.	Prima P 1	14	12
20,697.	Davy 308th H 1	13	11
21,789.	Pendant P 1	14	11

The foregoing statement appears to prove conclusively that longevity is one of the distinguishing features of Red Polls. It might easily be matched by similar extracts taken from the private Herd Books of any old-established herd of the breed. A few striking instances of this characteristic of the breed, combined with persistency in milk yielding, are also well worthy of mention. Rendlesham Fay, which lived to seventeen years of age, averaged 11,000 lb. of milk during the last five years of her life; Flaxmoor Ruby at seventeen years of age gave over 10,000 lb. in the year, and had averaged 12,500 lb. for eleven years; Gemma gave with her sixteenth calf 7644½ lb., and averaged 8684 lb. in fifteen years; Rendlesham Florist with her fifteenth calf gave roughly 9000 lb.; Ashmoor Molly with her fourteenth calf gave about 8000 lb.; Longford Demure with twelve calves averaged 7030 lb.; Longford Wisdom with fifteen calves averaged 7360; Longford Odalisque with thirteen calves averaged 7300 lb.; Edna with her thirteenth calf gave 7878 lb.; the eighteen-year-old cow Davy 295th, whose official yield for 1921 was 7643¾ lb., and for 1922 8784¾ lb.

Scores of similar instances might be given, but those adduced are surely ample to prove the truth of the contention that longevity and persistency in milk-yielding are two of the most notable features in the Red Poll breed. As bearing on the longevity and constitutional strength of the breed, reference may be made to the number of years during which the bulls remain fit for service. Naturally it is only bulls of exceptional merit that a breeder will keep in his herd for any considerable number of years, but a Red Poll breeder, if he so desires, may very well keep his bulls for service until they are at least nine or ten years old. Four rather striking instances of this power on the part of the bulls of the breed have come under the writer's own observation, all of them being of bulls fed for exhibition from birth, which had been successfully exhibited, and which therefore were less likely to be serviceable for any considerable number of years than those which had not been so treated. The instances referred to are Norfolk Duke, the most famous bull of his day, who carried all before him in the show-ring in the late 'sixties and early 'seventies, and was in service until fourteen years of age; Erebus, which won first at the Royal in 1880, together with many other prizes, and was in service until nine years of age; Davyson 244th, which was once Reserve Champion and twice Champion at the Royal, and was in service up to seven years of age; Marham Dauntless, which won the championship at the Royal in three successive years, and is now just on seven years of age, is in service at the present time, and has every appearance of being so for several years to come.



A further recommendation of the Red Poll breed is the excellent quality of the milk which they produce, their milk, whenever it has been tested, yielding a butter-fat content far in excess of the legal minimum of 3 per cent, as the under-mentioned typical examples will testify.

#### BUTTER-FAT PERCENTAGES, DAIRY SHOW 1922.

Cows above five years old . . . . .	averaged	4.29
Cows between four and five years old . . . . .	„	3.74
Heifers . . . . .	„	4.53

#### RESULTS OF BUTTER-FAT TESTS OF WHOLE HERDS AS RECORDED IN THE RED POLL HERD BOOKS FOR 1921 AND 1922.

	1920.	1921.
Hatchfield Herd . . . . .	5 cows averaged 4.34	7 cows averaged 4.54
Hutton Herd . . . . .	11 „ „ 4.59	11 „ „ 3.86
Knepp Castle Herd . . . . .	19 „ „ 4.32	32 „ „ 4.13
Necton Herd . . . . .	19 „ „ 4.22	24 „ „ 4.13

It is only in recent years that butter-fat percentages have been carefully recorded amongst Red Polls, and it is only in a few herds that they are so far systematically taken, but the instances given above may fairly be looked upon as typical of the great majority of the herds, coming as they do from widely separated parts of the country. As confirmation that such is the case, it may be mentioned that at the Gressenhall dispersal sale in 1919 the milk of twenty-one of the cows there sold had an average butter-fat content of 4.56 per cent.

Other characteristics of Red Polls are their hardiness, their capacity for doing well on poor pastures, and their propensity for laying on flesh quickly. The last-mentioned point is well illustrated by the way in which cows of the breed will fatten quickly for the butcher when their dairy careers are finished, even if such careers have been exceptionally long ones. Reared as these cattle have been for many generations past in the cold and bleak climate of East Anglia, and on the poor pastures which are so much in evidence on the thin, chalky, and sandy soils of a considerable part of that district, it is no wonder that they should have acquired those habits of hardiness and capacity of doing well on poor pastures which so especially distinguish them.

Another point well worthy of mention in connection with Red Polls is their almost complete immunity from tuberculosis, an immunity doubtless due to a great extent to the hardiness of their constitutions, and the open-air treatment to which they have been habituated for many generations past. The

writer has had experience in connection with the testing of a considerable number of Red Polls of different ages, but up to the present it has not been his experience to find any one of them reacting to the test. The experience of other breeders in that connection has been of a similar nature. Of course, it would be absurd to assert that all Red Polls are entirely free from tuberculosis, but to those who have had experience of the breed, it is somewhat surprising to find how little of it there is in existence amongst them.

A still further recommendation of the breed is their prepotency when used for crossing purposes. It is a well-known and recognised fact that when polled bulls are used on horned cows, in the great majority of cases the bull puts his stamp upon the offspring, and the produce are, like himself, polled.

There is one other characteristic of Red Polls without notice of which no description of the breed would be complete—namely, that they are, as their name implies, naturally polled. In consequence of that fact a greater number of them can be kept in a given space, and when a number of them are so kept they are much less likely to injure one another than would be the case if they were armed with those weapons of offence and defence known as horns.

Here is the conclusion of the whole matter: the Red Poll breed is one that bases its claim to public favour mainly upon its dual purpose characteristics, but which is at the same time possessed of many other excellent qualities, well calculated to recommend it to breeders of cattle of every kind and in almost every clime.

## SHROPSHIRE SHEEP.

By THOMAS A. BUTTAR, Corston, Coupar-Angus.

### HISTORY AND ORIGIN.

THE present-day Shropshire is directly descended from the native hill or Down breed which existed from time immemorial on the Longmynd Hills and Morfe Common in Shropshire, and on Cannock Chase in Staffordshire.

This native breed was famous for its hardiness and fine quality of wool and mutton, but it was deficient in size.

In the beginning of last century a number of eminent agriculturists in the midland counties of England formed an association with a view to improving this native breed. This they did by a system of selection and interchange of the best rams and ewes procurable, rather than by crossing with other breeds. They thereby retained the fine natural flesh and wool, and uniformity of character and type.

In 1853 the Royal Agricultural Society of England recognised the Shropshire as a distinct breed by granting prizes at their Gloucester Show of that year. Thereafter the breed gained steadily in favour, the culminating point being reached in 1884 at the "Royal" Show at Shrewsbury, when 875 Shropshire sheep were exhibited, against 420 of all other distinct breeds put together.

Shropshire breeders were the first to realise the value of pedigrees, and of keeping correct records; and in 1882 a Flock-Book Society was formed, the first volume being published the following year.

### BREED POINTS.

The ram should have a bold masculine appearance; the head wide over the top and strong without being too big and coarse; the nose and jaw, wide and strong; the eyes bright, lively, and prominent; the ears, medium in size, should not droop, but be well set up, without being pricked. The face, ears, and legs should be of a nice mellow black colour. The head should be well covered over the top with fine, dense white wool. The neck must be strong and muscular, well arched, with good collar or neck-vein. Chest, full, wide and

deep. The body is thick-set and blocky, standing on short, straight, stout legs placed well apart. The back should be straight and wide, and well covered with a deep layer of firm flesh—not soft and fatty. The hind leg or gigot is particularly well developed, being full, wide and deep, and fleshed to the hock. The whole body, head and legs, should be covered with a dense fleece of fine white wool of medium length. The skin ought to be pink.

The ewe must be as distinctly feminine in character as the ram is masculine, and she must carry herself with grace and gaiety.

#### ATTRIBUTES OF THE BREED.

*Mutton.*—It is of the choicest quality and of exceptionally good flavour. A very large proportion is lean meat, which is tender, juicy, and close in the grain. The back, shoulder, and ribs are covered with a great depth of flesh, and the hind-quarter or gigot is extra well developed, which gives the carcase a fine blocky appearance when hung up.

*Wool.*—It is of very fine texture, very dense, of medium length, and cuts a heavy fleece, which is particularly uniform in quality all over the body—even down the “britchen.”

The average clip of a well-bred Shropshire flock will weigh about 9 lb. per fleece, but individual rams will shear up to 20 lb., and yearling ewes to 15 lb. The wool commands the highest price of any Down breed, as manufacturers find that it stands most twist and stretch, and is not wasteful.

*Fecundity.*—Shropshires are naturally very prolific: yearling ewes produce 150 to 175, and older ewes 175 to 200 lambs per 100 ewes. The ewes are splendid milkers and good mothers, and will put on flesh whilst nursing two strong lambs.

It is an undoubted fact that flesh and milk go together: fatty natured sheep are always bad milkers.

*Early Maturity.*—Being possessed of a natural wealth of lean flesh, the Shropshire comes early to maturity, and is specially well adapted for the fat-lamb trade at home and for producing “freezers” abroad.

*Hardiness and Thriftiness.*—The breed has inherited and retained these valuable characteristics. It is notoriously sound in constitution, and being covered with a heavy coat of dense wool, it is capable of withstanding extreme variations of heat and cold. Being of a quiet docile nature, the Shropshire is a very modest and economic consumer, and can thus be run more thickly on the ground than most breeds. Shropshires should not be fed a large amount of cake and corn: they do much better on a small allowance combined with natural home-grown feed.

*Adaptability to various Soils and Climates.*—The Shropshire

is to be found in almost every county in England, and throughout Scotland, Ireland, and Wales. It has been proved to thrive equally well on heavy clay soils and on poor light land, and in wet districts as well as dry—provided always that the general management is good. It is also to be found practically in every sheep-raising country throughout the world. There are many breeds of sheep that thrive well in their native districts, but few that do not rapidly deteriorate when removed to countries where their environment is changed. It is a valuable characteristic of the Shropshire that it quickly becomes acclimatised, and long retains its many good qualities,

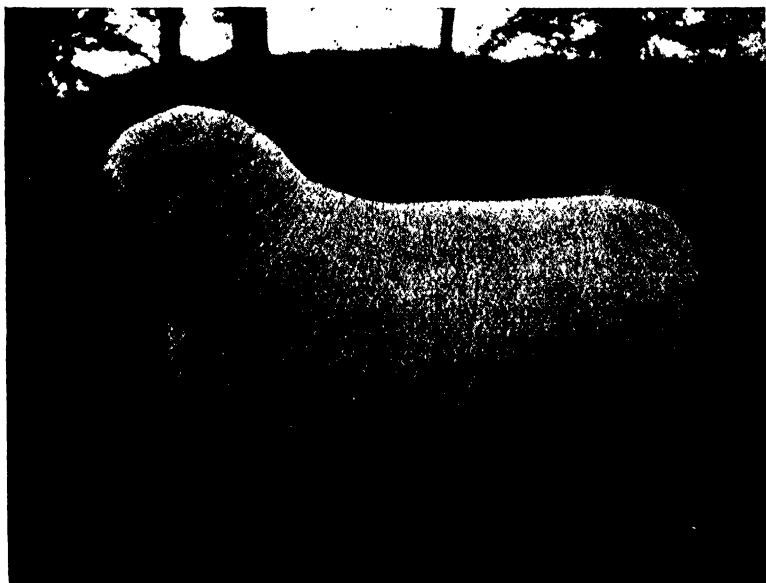


Fig. 15.—*Shropshire Shearling Ram, "Corston Majestic."*

First Prize and Champion at Highland and Agricultural Society's Show, Dumfries, 1922.

even in surroundings widely differing from the home of the breed.

#### VALUE FOR CROSSING PURPOSES.

The valuable characteristics of well-bred Shropshires are conveyed to their crosses in a remarkable degree. To produce the finest quality of fat lamb and butcher's sheep the Shropshire ram has no equal. He has been used most successfully in Scotland on Border-Leicester, Cheviot, Half-bred, and Cross-bred ewes; in England on many different breeds; and abroad on Lincoln, Merino, Romney, and their crosses.

It has been found that Shrop-cross lambs come very early to maturity. The mutton is of the best description and most saleable, being of moderate size, and possessing a large proportion of lean meat.

It is also worthy of note that ewes bred to a Shropshire ram give very little trouble at lambing time, on account of the ram's head being of medium size.

In the Border counties of Scotland it is the general custom to raise various kinds of cross-bred lambs to be sold at auction at St Boswells, Kelso, and other centres as store lambs. These lambs are mostly purchased by English and Scottish farmers,

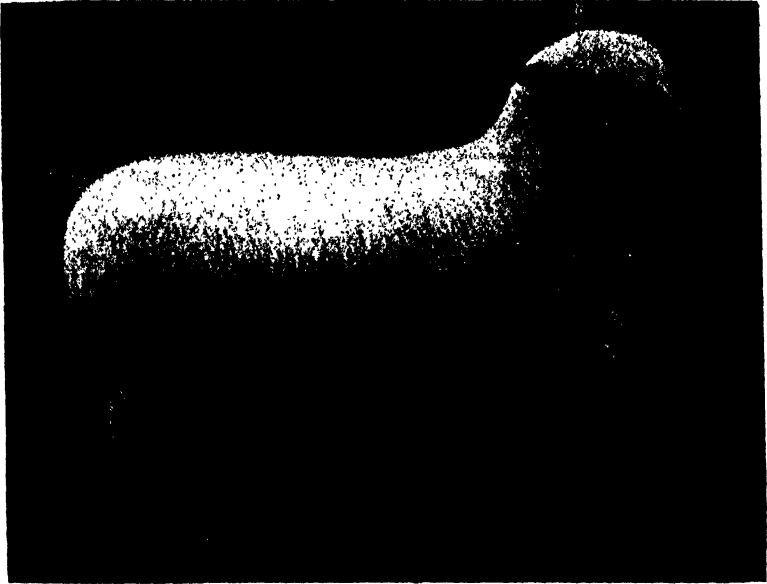


Fig. 16.—*Shropshire Yearling Ewe.*

First Prize at Highland and Agricultural Society's Show, Dumfries, 1922.

to be fed on their arable farms during the autumn and winter. For this purpose many breeders use the longer-legged and rougher breeds of rams, as the resulting cross-lambs look big in the auction ring and attract the eye of feeders. But those breeders who are in the habit of using Shropshire rams, and selling the Shrop-cross lambs at the same sales, find that their lambs make equally high prices, and are generally purchased by butchers. As these lambs are full of flesh, they are killed at once and sent to the London market, where they make at least 2d. per lb. above rougher sheep. These Shrop-cross lambs get no better feeding than the others, but they are fat when the other crosses are only stores.

Feeders of sheep must surely stand in their own light by buying these long-legged rougher types of cross-lambs for feeding purposes. They are big consumers, and require a very big allowance of cake and corn, besides other feed, to make them ready for market; and when they do come to be sold, their carcasses are too big, fat, and wasteful to command the best price in the London market. This class of mutton comes in competition with Argentine and other foreign frozen and chilled meat.

The demand nowadays is for medium-sized joints of choice quality, which command top price. This meat is relished by the consumer, who will eat more mutton, in preference to beef, if he can get what he likes and appreciates.

In feeding sheep for the fat market, feeders should look more to the gross weight of best quality mutton that can be produced from a given acreage or given amount of feed rather than to an apparently big price for a less number of big rough sheep of inferior quality. They would find they could feed 140 or 150 of the quality class on the same amount of feed as 100 of the rougher class, and their financial returns would be infinitely better.

The Shropshire cross, being a fleshy medium-sized animal, hardy and thrifty, will (under good management) be always, at any day of its life, in good butcher's condition and ready for market when required.

#### EXPORT TRADE.

The foregoing valuable practical attributes have drawn the attention of our critical Colonial and foreign customers to the breed. They find Shropshires are just the sheep they require for producing the best class of "freezers" and for grading up their native breeds, whilst the Shrop-cross wool is a most valuable and saleable commodity.

In Canada and the United States, Shropshires are the most popular breed. The last Live Stock Census Report on pure-bred sheep on farms in the United States brings out the great hold Shropshire sheep have attained as economical producers of mutton and wool on the great American continent.

The total number of pure-bred sheep in the United States in 1920 was 463,504. Shropshires come first with 124,453, equal to 26½ per cent; Rambouillets next with 106,819; and Merino follow with 59,876.

Mr Richard Gibson of Belvoir, Ontario, the well-known sheep expert and judge in America, says: "I have bred nearly all English mutton breeds, but I find that Shropshires are easy to keep and easy to look after, and will return more

pounds of edible mutton per acre than any other breed that I have tried. They improve all breeds upon which they are crossed—proving their value for commercial purposes.”

It is a great satisfaction to breeders that H.R.H. the Prince of Wales has lately established a flock of pure-bred Shropshires on his Canadian ranch at Alberta, his foundation stock being sent from this country.

In Australia, New Zealand, and Tasmania the Shropshire is a great favourite as a dual-purpose sheep for mutton and wool. The famous Canterbury frozen lamb from New Zealand is mostly Shrop-cross. Many well-known authorities can be quoted to verify the pre-eminent value of the Shropshire in Australasia.

Shropshires are also largely exported to the Argentine Republic, Uruguay, Brazil, South Africa, Japan, &c.

Combining, as they do, the most valuable and desirable points from a wool and mutton point of view, with a minimum of objectionable features, Shropshire sheep have obtained an eminent and permanent position in the estimation of sheepmen all over the world. They meet all the requirements of the present day as a successful and profitable general purpose sheep.



## INSECT AND OTHER PESTS OF 1922.

By R. STEWART MACDOUGALL, M.A., D.Sc., Consulting Entomologist  
to the Society.

### ISLE OF WIGHT DISEASE IN BEES.

WHEN in the 'Transactions' of 1914 I reviewed the literature of Bee Diseases, it was stated that Isle of Wight Disease was due to the parasite *Nosema apis*, a microscopic Protozoon found infesting the alimentary canal—chiefly the chyle stomach—and sometimes the Malpighian or urinary tubules of the bee. This infectious disorder of bees is known now as Nosema Disease or *Microsporidiosis*. This disease is known in different parts of the world, and varies in virulence. Since the work done on *Nosema apis*, Dr Rennie at Aberdeen—Mr Anderson, Mr Bruce White, and Miss Harvey being associated with the investigations—has discovered and described a new parasite, *Tarsonemus*, to which the so-called Isle of Wight Disease should be ascribed rather than to *Nosema*. *Tarsonemus* is a mite, one of the Acarina, and to prevent confusion the disease due to it is known as Acarine Disease. The exact recognition of bee disease, from symptoms only, is difficult and dangerous, as somewhat similar symptoms may be present in different diseases; but as guides suggesting Acarine Disease, Rennie says that in its early stage the stock shows "signs of listlessness and works indifferently; the bees come up and loiter on the tops of the frame when the hive is opened;" and in the later stages many "crawlers." The mite discovered by Rennie is a new species, and was named *Tarsonemus woodi*. On account of several differences in the legs between *Tarsonemus* and the newly-discovered mite, Hirst has placed the mite in a new genus, with the name *Acarapis woodi*,<sup>†</sup> Rennie.

*Acarapis woodi* is an extremely minute mite, which is found infesting the breathing tubes of the thorax of the bee. The mites gain entrance to these tubes by the openings or spiracles, that lead to the tubes, situated on each side of the thorax. Pairing takes place in the respiratory tubes, and eggs are laid. From the egg hatches a six-legged larva, which, after moulting, becomes the eight legged adult. Males and females and eggs and larvæ may all be found in the tubes.

As the thorax of the bee is the part that carries the wings and lodges the wing muscles, an efficient air-supply is very necessary. The air-supply is interfered with by the blocking of the air-tubes, owing to the presence of the mites—often in considerable numbers—while the feeding of the mites sets up pathological changes. The bee becomes unable to fly (such bees are known as crawlers), and the abdomen becomes swollen with the excrement, which in normal bees is voided in the open during flight. White, by experimentally plugging the thoracic air-holes of healthy bees with wax, induced the crawling condition, the bees so treated losing their power of flight.

Dr Rennie, in his Presidential Address to the Apis Club in 1922, emphasised in relation to Acarine Disease the following points :—

“The real problem in Acarine Disease is that of an epidemic in a short-lived, rapidly-changing, and (during the working season) normally-increasing population.

“The control of Acarine Disease is the prevention of stocks remaining stationary or going down in numbers of bees.

“The bigger the stock the bee-keeper can build up and the more quickly the bees are bred, the less important the parasite of Acarine Disease.

“Good queens at their best can produce bees faster than disease can destroy them.”

Mr G. W. Bullamore, in an interesting review of bee diseases in ‘Parasitology’ for April 1922, calls attention to the enormous mortality in the bees of our country since 1904, with a consequent great importation of new bees from many different countries; and, contrasting the present methods of bee-keeping with older methods, writes of the “superiority of the older system of bee-keeping, which considered it undesirable to retain any stock after the third season, the less vigorous colonies being sulphured at an earlier period. Ever since the introduction of the ‘humane’ system, by which the redundant bees are distributed as ‘driven bees’ throughout the land, there has been a steady increase in disease.”

### “BIG BUD” OF BLACK CURRANT.

This disease is due to a mite (*Eriophyes ribis*) which lives under cover of the buds, and as a result of its work causes the buds to swell greatly and later to wither. In badly-infested buds hundreds of the mites are present, and in all stages—adults, eggs, and immature mites. The mites measure only about  $\frac{1}{100}$  of an inch in length, and they are so protected in the buds for the great part of the year as to be out of the reach of treatment. Many growers, disheartened in spite of

strenuous effort to fight the pest, have given up all attempt to grow black currants; while nurserymen, refusing longer to apply remedial treatment, uproot and burn plants that show the swollen buds symptomatic of the disease. Theobald, in England, has recorded attack also on red currant and white currant.

If an infested bud be cut open and examined with a hand-lens numerous greenish-white specks are seen, and these, placed under the microscope, reveal themselves as the mites. The mite, magnified, is seen to be elongated in shape, and to be slightly wider at the front end. The mouth-parts are fitted for piercing and sucking. There are four short legs, each ending in a claw. The hind part of the body shows numerous transverse rings. Five pairs of bristles are present, the pair at the hind-end being the longest. At the hind-end is a sucker, by which the mites can support themselves, with body erect.

The mites cannot live exposed in the open, but must have the shelter of buds. They are deprived of such shelter when early in spring a bud that has not been greatly affected opens out. The exposed mites seek shelter-places, and it is believed that if this opening takes place in March, many mites perish. The main migration, however, is from buds that have been heavily infested, and having become spoiled, do not open. The mites leave these withered buds, and pass to other fresh buds as feeding-places and for shelter. Such migration takes place from mid-April to June, and it is at such times that any remedial treatment should be attempted, the migrating exposed mites being sprayed or dusted.

Where attack is limited, it is safer to uproot the plant and burn than to attempt remedial treatment. Hard pruning and the destruction of swollen buds should theoretically be advantageous, but in the actual practice often proves disheartening in result.

Cultivate from clean stock only. Pickering recommended for the disinfection of cuttings, immersing them in water at 115° F. for ten minutes before planting.

#### ERIOPHYES FRAXINI.

Examples of the work of *Eriophyid* mites on plants other than currant have been given in earlier 'Transactions'—for example the damage done by the Pear Leaf Blister Mite. This year specimens reached me from different parts of the country—e.g., Perthshire and Mid-Lothian—of the work of *Eriophyes fraxini* on ash. This mite of the ash infests the inflorescences, in which three kinds of flower are produced: male flowers, with stamens only; female, with pistil only; and flowers with both stamens and pistil. The flowers are spoiled as a

result of the working of the mite ; the anthers are stunted and yield no pollen ; the ovaries are barren. The general result is well shown in Fig. 17, where the crowded inflorescences are withered and crumpled ; the appearance is that of the inflorescence of a cauliflower. To begin with, the infested growths are soft and green-brown, but later they are dark-brown and hard.



Fig. 17.—*Ash inflorescences spoiled by Eriophyes fraxini.*

$\frac{2}{3}$ ths natural size. From nature.

The work of this mite is specially evident in certain years, weather conditions playing a part. Normally the flowers of ash begin to open out in April or May, before the leaf-buds unfold, being borne on shoots produced in the previous year. In mild weather, in late autumn and early winter, mite-infested young inflorescence-buds swell abnormally, and may partly burst ; then if a period of frost follows, such partly-

open flower-buds become frosted and die. Fig. 18 shows a cluster of ash fruits that have developed normally from inflorescences free from the mite; it should be compared with Fig. 17.

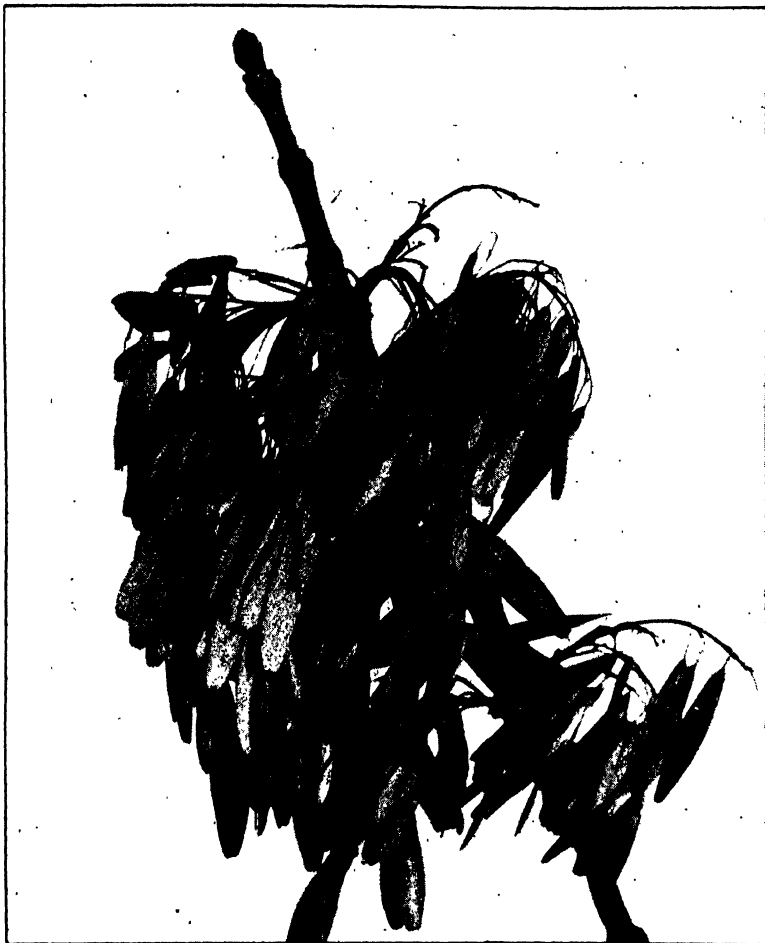


Fig. 18.—*Fruits of Ash.*  
Half natural size. From nature.

#### SOME MITE AND INSECT ENEMIES OF POULTRY.

##### *Scaly Leg.*

This disease is due to an itch-mite closely related to the mange or scab-mites of horse, dog, sheep, &c. The name of

the parasite is *Cnemidocoptes (Sarcoptes) mutans*. This mite lives underneath the epidermal scales of the leg of the fowl. The place attacked is the part of the leg without feathers, and it may also be the upper part of the toes. The disease is transmissible to turkey, partridge, pheasant, guinea-fowls, parrot, and small cage-birds like the finches.

The male mite measures only  $\frac{1}{16}$  of an inch, and the female  $\frac{1}{8}$  of an inch. The body is round in the female, rounded-oval in the male. Eight legs are present in the adult mites, and these, in the male, end in an unjointed stalk that bears a sucker. The legs of the female are without stalk and sucker, but end in two claws. The females enter the skin under the scales, and in time the epidermal scales become raised, and underneath them is found a chalk-like powdery mass glued together by serous exudate. The irritation due to the parasites gives rise to the serous exudate, which dries, and gradually, by coalescence, rough crusts are formed, greyish on the outside and white below. These crusts are most numerous on the front of the leg, but are present also behind and under the toes. The crusts are thick and irregular, and on removal the exposed skin is seen to be bloody. On the inner side of the crusts are minute pits, the deeper ones being occupied by the stationary females, containing eggs. The females of the *Sarcoptes* mange mites of man and the larger farm animals make burrows in the skin, but in the case of this fowl-mite the fertilised females remain in a chamber or pit. The six-legged larvæ and the nymphs—eight-legged but not sexually mature—and the mature males and unfertilised females are more active, wandering about under the spongy crusts.

Diseased birds are lame, and have difficulty in perching. In bad cases a toe may drop off. Appetite fails, and in untreated cases death may follow.<sup>1</sup> "The conditions which favour the spread of the disease in a flock are dry barren runs, especially on alkaline soils or in yards filled with ashes or cinders. Foul roosting places also favour the spread of the disease."

*Treatment.*—Isolate infected birds. Soften the crusts by bathing the leg in hot water, and then remove the crusts, or at any rate the loose ones, by means of a brush. Then apply a dressing of Helmerich's pomade; this is allowed to remain for two days, and then is washed off with soap and water.

Various other dressings are recommended in the literature, the favourite one in America being that recommended after experiment by Haiduk—viz., one part of caraway oil to five parts of white vaseline or lard; the treatment is repeated every few days.

<sup>1</sup> 'Diseases of Poultry,' by Pearl, Surface, and Curtis, p. 221.

Paraffin and preparations containing paraffin are used, and they are effective; the risk, however, is that the paraffin may reach the feathers of the upper part of the leg and the skin, and if this happens blistering follows. Roosting places and places where the birds have been kept should be thoroughly cleansed and disinfected, the mite being able to survive for some weeks away from the host if temperature be favourable.

### *Depluming Scabies.*

The Depluming Scabies parasite, discovered by Railliet in 1886 and named *Cnemidocoptes lœvis*, is found on the body of the fowl, and is a cause of the falling out of feathers.

The birds, irritated by the pricking of the mites at the root of the feathers, pull out their feathers. Feathers also are broken through at the level of the skin. If the skin be examined, at infested places where feathers have been pulled away, powdery epidermal scurf or scales can be seen, in which the parasites, in different stages of development, may be found.

The disease is very contagious for fowls. Beginning somewhere on the back, it spreads to other parts of the body; the head and neck are sometimes badly affected. The male bird suffers most, and can be, in pairing, a common cause of the spread of the mites.

Attacked birds become thin, and fall off in their egg-laying. The male measures about  $\frac{1}{10}$  of an inch in length, and the female about  $\frac{1}{7}$  of an inch.

*Treatment.*—The base of the feathers should be wetted with soapy water, and then be dusted with fresh pyrethrum powder or flowers of sulphur, or a sulphur ointment or other ointment mentioned above for Scaly Leg.

Isolate attacked birds, and do not introduce infested ones.

### *The Red or Chicken or Poultry Mite (Dermanyssus gallinæ)* (Fig. 19).

This common mite is a great pest in a poultry-house. The mite is  $\frac{1}{10}$  inch long, is grey or grey-yellow in colour when fasting, red when gorged with blood, has sharp piercing mouth-parts and eight legs when adult; abdomen and legs carry bristles. The mite is a blood-sucker. It rests and hides in the day-time in crevices in the roosts, or in the cracks in the wall beside the roosting-places or in heaps of litter. At night the mites swarm on to the fowls for feeding purposes, and they leave the fowl for their shelter-places when they have finished their meal. Occasionally this mite can be found on the birds in the day-time.

Their shelter-places are their breeding-places. Pairing takes place and eggs are laid, which soon hatch into pale six-legged

larvæ, which in a short time moult into an eight-legged mite, and this after another moult becomes adult. In favouring conditions—viz., temperature, darkness, and a certain amount of moisture—development is rapid, so that a life-cycle can be completed in between a week and a fortnight. The mites can live for several months in the poultry-house in absence of birds.

Birds attacked by the mites at night cannot rest ; there is loss of condition and failure in egg-laying.

*Treatment.*—Have houses dry, and exposed as much as possible to sunlight. Clear away all rubbish, and spray

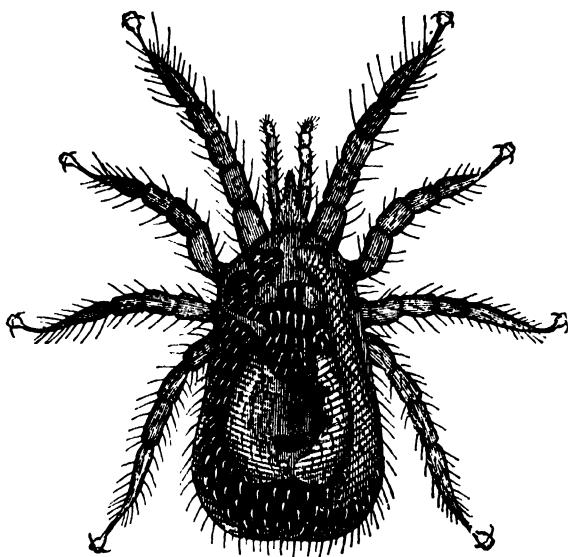


Fig. 19.—*Dermanyssus gallinæ*. *Female*.

Magnified about eighty times. (After Delafond.)

perches and walls with paraffin or paraffin emulsion, or with a 5 per cent solution of creolin.

#### *The Wing Louse of the Hen (Lipeurus variabilis) (Fig. 20).*

This species has been named by Bishopp the Wing Louse, as the only species "found commonly on the large wing-feathers of chickens." It has an elongated narrow body, with the sides almost parallel, and measures  $\frac{1}{5}$  inch in length. The colour is dirty-white or grey-white or grey, with the head paler. Antennæ long, and yellow in colour ; six long legs ; abdomen with a dark margin, and with interrupted dark-coloured bands.



The female louse, after pairing, lays her eggs between the small barbs of the primary and secondary feathers. From these hatch larvæ that resemble the parent save in size and the undeveloped sexual organs. After feeding and moulting the adult stage is soon attained without any pupal or resting stage.

This louse is not a mite, but a small wingless insect belonging to the Order of Biting Lice (*Mallophaga*). Biting Lice have the body divided into a head, thorax, and abdomen. The head, which is as broad or broader than the thorax, carries mouth-parts, eyes, and antennæ. The mouth-parts are adapted for biting, not for sucking; these lice nourish them-

selves on pieces of feather, scurf, epidermal scales, and bits of hair (in the species that live on horses, cattle, and dogs). Their presence in numbers on a bird or other animal is a cause of irritation, partly from their movement—the six legs are clawed at the apex—and partly from the wounding of the skin by the mouth-parts (blood may be drawn). The Biting Lice keep close to their hosts, away from which they do not survive more than a few days. While some Biting Lice are found on mammals, the great majority live on birds, hence a common name for the *Mallophaga* is Bird Lice. Bird Lice multiply rapidly, an individual life-cycle being passed through in a short period of time, perhaps in about three

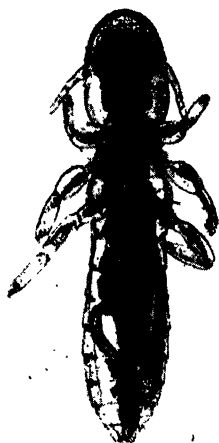


Fig. 20.—*Lipeurus variabilis*.  
From Hen.

From nature. Greatly magnified.

weeks on an average, or in favouring conditions less. Infestation takes place on the introduction of new lousy birds. Bishopp and Wood,<sup>1</sup> after experimenting with and testing a number of materials used in destruction of lice, recommend, as effective, sodium fluorid—powdered commercial 90 to 98 per cent sodium fluorid—applied as a dusting powder or as a dip. No bird must be allowed to remain untreated, otherwise reinfection will follow.

In using sodium fluorid as a dusting powder, Bishopp and Wood recommend the following method: "Place the sodium fluorid in an open vessel, and hold the fowl by the legs or

<sup>1</sup> "Mites and Lice on Poultry," by F. C. Bishopp and H. P. Wood. Farmers' Bulletin No. 301, United States Department of Agriculture.

wings with one hand, while with the other place a small pinch of the chemical among the feathers next to the skin, thus: one pinch on the head, one on the neck, two on the back, one on the breast, one below the anus, one on the tail, one on either thigh, and one scattered on the underside of each wing when spreading. Each pinch can be distributed somewhat by pushing the thumb and fingers among the feathers as the material is released." One pound of commercial sodium fluorid will dust 100 hens; in dipping, the sodium fluorid goes further.

*Effect of Sodium Fluorid on Animals, with precautions necessary.*—Sodium fluorid kills the lice without giving rise to skin irritation of the fowl or chicken.

1. The dusting may irritate the air passages of the birds, but this passes off very quickly.
2. Care must be taken to prevent the sodium fluorid from getting into the fowls' food or drinking water. Sodium fluorid is a poison if taken internally.
3. The worker using the sodium fluorid should not have cuts or wounds on his hands.
4. Tender parts of the worker's skin may be burned if the sodium fluorid remains in contact with the skin for some hours, therefore fowls should be dusted on a table and not held between the knees.
5. The dust is irritating to nose and throat, therefore if the sodium fluorid is being shaken over the fowls instead of the "pinch" method being used, the operator should wear a dust-guard over the nose, or have a piece of wet cloth over nose and mouth.
6. Galvanised containers are injured if sodium fluorid solution be kept in them or in tubs overnight.

Bishopp and Wood favour dipping the fowls, in favourable weather, in a bath of 1 ounce commercial sodium fluorid to 1 gallon (United States gallon) of water. The sodium fluorid dissolves on thorough stirring. In dipping, the wings of the bird are held over the back with the left hand, and as the bird is submerged (except the head) the feathers are ruffled with the other hand to favour the penetration of the solution. Finally, the head is ducked twice, and the bird, allowed to drain for a few seconds, is then released.

#### THE BITING OR RED LOUSE OF CATTLE (*Trichodectes scalaris*).

Lice of the genus *Trichodectes* are found on mammals; they have three-jointed antennæ. The word *Trichodectes* means "biter of hair."

The Red Louse is found both on old and young cattle; it

measures  $\frac{1}{8}$  of an inch and over. The head and thorax are shining red-brown and the abdomen tawny; the head is heart-shaped, and has two dark spots in front; the head is broader than the part of the thorax behind it; the abdominal joints on their upper surface show dark transverse bands. The six legs are short, and the claws in which they end enable the parasite to cling to its host.

THE SUCKING OR SHORT-NOSED CATTLE LOUSE  
(*Hæmatopinus eurysternus*) (Fig. 21).

This is a distinctly larger form than the last, as it measures up to  $\frac{1}{8}$  of an inch and over in length. The mouth-parts



Fig. 21.—*Hæmatopinus eurysternus*.  
Female.

From nature. Magnified.

are adapted for piercing and sucking blood (*Hæmatopinus* means drinker of blood), and the head is narrower than the thorax. The head is bluntly rounded in front, and nearly as broad as long. The antennæ are five-jointed. The six legs, in addition to their claw and a prolongation of the tarsus which bite against one another like forceps and clasp the hair of the ox, have between these a minute triangular plate, seen under magnification, which helps in the claspings. The thorax is widest behind. The abdomen is grey or yellow-grey, with four longitudinal rows of chitinous patches, those down the sides being large and surrounding the

spiracles. The female can be told by having the end of the abdomen notched, and with two dark blotches on its last joint.

This Sucking Louse of cattle is found chiefly on parts where the hair is long, and which cannot be licked.

The life-history of both the Biting Louse, described above, and the Sucking Louse is identical. Eggs are fixed to the hairs. From these hatch larvæ or young lice, which have the same general external appearance and food habits as the adults. In the absence, then, of marked changes between the young forms from the eggs and the adult forms no lying-up or resting pupal stage is necessary, and the larvæ, by a series of moults, develop gradually to the sexual adult. The life-cycle is passed through in a short time. The lice do not

live long away from the host animal, but the eggs may retain their power of hatching for three weeks.

The presence of lice on cattle is indicated by the eggs or nits on the hairs, by the irritation and restlessness of the animal, by—especially in the case of the Sucking Louse—a loss of hair due to rubbing, and by the unthriftiness of the parasitised animal.

The ordinary dips destroy lice, but in a special Report on the Diseases of Cattle, issued in 1916 by the United States Department of Agriculture, it is stated that “though lime-sulphur is an excellent mange remedy, it is less satisfactory for lice, especially the Sucking Lice of cattle.”

For treatment on a small scale, reference may be made to my Report in the ‘Transactions’ of 1916.

#### BUTTERFLIES AND MOTHS.

##### *The Large Cabbage White Butterfly* (*Pieris brassicæ*) (Fig. 22 and Fig. 23).

This butterfly is known to every one. The two sexes are seen in Figs. 22 and 23. The male, typically, has no black spots



Fig. 22.—*Large Cabbage White Butterfly. Male.*

Natural size. From nature.

on the front wings, only the tips being black, whereas in the female not only are the tips of the front wings black, but there are also on each front wing two black spots and a black dash. The first Cabbage White butterflies of the year may be looked for in May, when pairing takes place and eggs are laid. The eggs, which are yellow in colour, are laid in clusters on the under-side of the cabbage leaves; they stand up on end, and have distinct longitudinal ridges.

The young caterpillars hatch in ten days to a fortnight, and

feed socially in the early part of their lives, but later they spread over the plant. Their food plants are typically cruciferous plants, cultivated and wild—*e.g.*, cabbage, cauliflower, kale, turnip, rape, white mustard, hedge mustard, Jack-by-the-hedge. Plants of other Orders may be eaten—*e.g.*, nasturtium and mignonette. In a very interesting Paper in the Bulletin of Entomological Research for September 1913, Dr Ivar Trägårdh pointed out that a group of glucosides, the mustard oils, is common to all these plants. Dr Trägårdh, in reviewing the work of Verschaffelt in Holland on the factors which determine the choice of food of certain butterflies, quotes how Verschaffelt “took a solution of sinigrin, which forms the glucose part of black mustard, and with a brush spread it upon some leaves of other plants which the Cabbage Butterfly caterpillars had refused to eat.” The leaves were

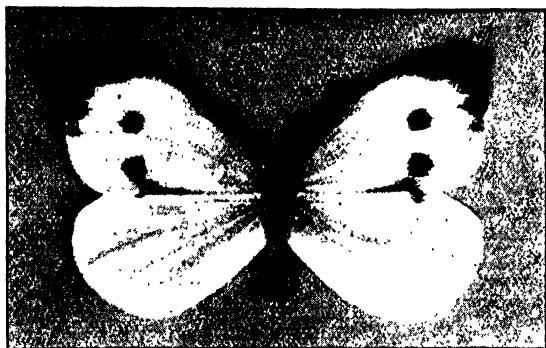


Fig. 23.—*Large Cabbage White Butterfly. Female.*

Natural size. From nature.

now “devoured with relish.” From such experimental work, and from the known fact that certain insects are attracted to odorous baits, Dr Trägårdh foreshadows a time when, taking advantage of the insect’s specialised sense of smell, egg-laying insects will be trapped by being lured to special baits consisting of isolated organic substances in the food plants of the larvæ of these insects, to which baits the females will be attracted by their sense of smell.

The caterpillars of the Large Cabbage Butterfly are dirty-green or yellowish-green in colour, with black spots and markings of different sizes; the head is light-green, punctured with black, and black-edged; there is a yellow stripe along the middle of the back, and yellow side-stripes; spiracles pale-grey or yellowish, edged with black or brown-black; the body has fine hairs springing from minute warts; there are sixteen legs.

In July the caterpillars are full fed, when they leave the plants for some shelter-place—a wall, a paling, an outhouse, a tree—and there pass into the pupal stage. The chrysalid has its pointed hind-end fixed by hooks in a little mass of spun silk, while the body is further supported by a girdle of silk. In a fortnight the next brood of butterflies issues, and the caterpillars from their eggs become full-grown, and pupate in the autumn. As a rule there are two broods in the year, but in certain favouring conditions there may be a partial third brood.

It is chiefly in garden cultivation that this caterpillar is destructive, and the insect may be fought—

- by destroying egg clusters ;
- by handpicking the caterpillars ;
- by drenching the leaves, on which the caterpillars are present, with water or with soap-suds or weak brine.

A Braconid parasite is an excellent natural aid against the caterpillars. How the larvæ of this Braconid feed internally in the butterfly caterpillars and destroy them I described in the 'Transactions' for 1921.

### *The Small Cabbage White Butterfly (Pieris rapæ).*

The caterpillars feed also on cruciferous plants. The females lay their eggs on the plants singly and not in clusters. This butterfly, introduced to the United States some years ago, accidentally or intentionally, has multiplied there, and has spread rapidly, both south and north into Canada. In North America it is actually replacing native species.

The caterpillar is pale-green, lighter at the sides, with black spots ; head brown-green ; a narrow yellow line down the back ; narrow yellow side - stripes ; spiracles black ; the spiracles are situated on the yellow side-stripes.

### *The Green-veined Cabbage White Butterfly (Pieris napi) (Fig. 24).*

This butterfly, the same size as the Small Cabbage White, is characterised by the under-side of the wings having the veins edged with green or grey - green. There are two broods in the year. The eggs are laid singly on the leaves of the food plant. The



Fig. 24.—*Green-veined Cabbage White Butterfly.*

Natural size. From nature.

caterpillars feed on a number of different crucifers, both wild and cultivated.

The caterpillar is brown-green, paler at the sides, with white warts and black points; the head is grey-green; no yellow line down the back; yellow side-stripes; spiracles black, bordered with yellow-red; the spiracles are situated above the yellow side-stripes.

*The Death's-Head Moth (Acherontia atropos) (Fig. 25).*

I gave some notes on this large and striking moth in the 'Transactions' of 1913 and 1915 and 1916. This year I had it sent for determination from Ballachulish.



Fig. 25.—*Acherontia atropos*.  
From nature.

*The Poplar Hawk Moth (Smerinthus populi) (Fig. 26).*

This not uncommon moth attracts attention from its size; it may be found about midsummer on poplar trunks. Its caterpillar feeds on the leaves of poplar, willow, and some garden plants, but is not at all a serious enemy. The general appearance of the moth will be recognised from the figure. The front wings are brown or grey-brown, with darker brown here and there; there is a white spot about the middle of each front wing. The hind wings have a distinct red or red-brown blotch. The moth flies in June and July.

The caterpillar measures 3 to 3½ inches when full grown. It is green, with many yellow dots, and has seven oblique yellow stripes on each side; sometimes there is a row of red dots high up along each side; spiracles red or in some

cases light-coloured, edged with brown; skin rough and granular; a green or yellow-green horn with red base projects from the upper surface of the second last joint.

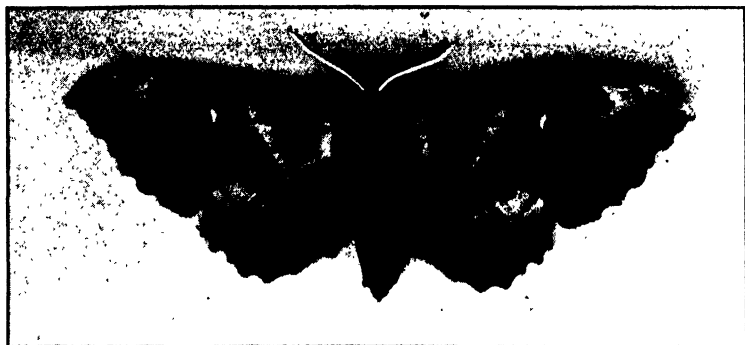


Fig. 26.—*Poplar Hawk Moth*.

Natural size. From nature.

*The Small Elephant Hawk Moth* (*Metopsilus* (*Chærocampa*) *porcellus*).

This moth was sent for determination from Bankfoot, Perthshire, on 11th July, with the remark in the accompanying letter, that "the colours seem very beautiful—I thought at first it was a flower." The front wings are yellowish olive brown; the front wings have their fore-edge blotched with pink, and there is an irregular broad band of pink on the outer margin; hind wings black, pink, and olive; thorax and abdomen rosy-red or pinkish, variegated with olive.

The caterpillar is variable in colour—green or grey-green, brown or grey-brown. On each side of the fourth and fifth joint behind the head is a pink eye-like spot bordered with black. The full-grown caterpillar may reach 2 inches in length, and it lacks the horn which in most hawk-moth caterpillars is present at the end of the body. The caterpillar feeds on Lady's Bedstraw and other wild plants. The moths fly in June and July. Eggs are laid on the food plant. The caterpillar is full grown in September, pupation taking place on the soil under cover of a cocoon in which parts of the food plant are present.

*The Wood Leopard Moth* (*Zeuzera pyrina* or *æsculi*).

This moth, a relation of the Goat Moth whose caterpillars are destructive to trees in some parts of Scotland, is not



found in Scotland, Cheshire being its most northerly range. The branch from which Fig. 29 was made was sent to me from further south.

The moth (Fig. 27) receives its common name from its



Fig. 27.—*The Wood Leopard Moth.*

Natural size. From nature.

spotted appearance; the spots are black or blue-black on a white background.

The caterpillar (Fig. 28) may measure 2 inches in length; it is white or yellow-white in colour, with a number of black warts, each bearing a fine bristle. On the upper surface of the joint behind the head is a glossy black or black-brown

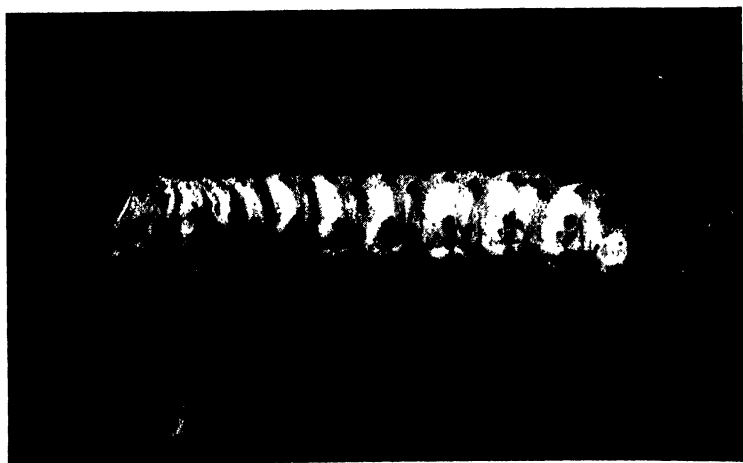


Fig. 28.—*Caterpillar of Wood Leopard Moth*  $\times 3$ .

From nature.

shield, and there is a similarly-coloured shield on the last joint.

The moths lay their eggs, singly, on stem or branch of a number of different broad-leaved trees, and the caterpillar



Fig. 29.—Caterpillar of Wood Leopard Moth in its tunnel.

Natural size. From nature.

on hatching gnaws at first irregularly under the bark, and then tunnels into the wood (Fig. 29), making a gallery that runs in the direction of the long axis of the organ invaded. The gallery in the wood may reach 8 inches in length. Pupation takes place in the tunnel, just under the bark. In addition to many other broad-leaved trees, apple, pear, and holly are host trees of the caterpillar.

*The Large Yellow Underwing* (*Triphœna* (*Agrotis*) *pronuba*).

This common moth is well known, not only out of doors, but also from its entering rooms at night. It measures 1 inch in length and 2 inches and over in spread of wings. The fore wings vary in colour from pale to dark-brown, with numerous zigzag lines and spots. The hind-wings are orange-yellow, with a narrow black border or band parallel to the hind margin. The head and thorax have the same colour as the front wings; the abdomen is rather paler, and has a black spot on the second last joint. There are other Yellow Underwing Moths, but our species can be told by its size, by the narrower (in comparison) black band on the hind-wings, and by the absence (very rarely a mark is present) of a dark mark or crescent on each hind-wing. The Large Yellow Underwing is one of the family Noctuidæ, and flies at night.

The caterpillar is one of the so-called Surface Caterpillars. It is stout-bodied, with the colour variable, green or yellow-green to brown; a pale line down the middle of the back generally shows up amid the brown on each side of it; there is a further line of black marks or streaks; side-stripes pale-yellow or green; spiracles black or dark-yellow, surrounded by black; head small and shining brown, with dark streaks; legs sixteen in number.

The pupa is glossy red-brown, and has two spines and two little points at the hind-end.

The moths are in flight in June and July; and in July and August the eggs are laid on garden and other plants. The female lays a very large number of eggs, the eggs being small for the size of the moth. The caterpillar feeds at night, and, like the other Surface Caterpillars, hides in the day-time an inch or so in the soil under and beside the food plant. When turned up from the soil and touched, the caterpillar rolls itself up in a ring. The caterpillar remains as caterpillar throughout the winter, feeding when the weather is not too severe, and when full fed in the next late spring pupates in the soil in a hollowed-out earthen cell. While this is the typical life-history, sometimes the moth may be found flying in September, such moths having been developed from the earliest-laid eggs of the year.

The caterpillars of the Great Yellow Underwing and its two near relations, the Turnip Moth (*Agrotis segetum*) (I described this species in the 'Transactions' for 1915) and the Heart and Dart Moth (*Agrotis exclamationis*)—recognisable by the heart and dart or mark of exclamation on its light-brown front-wings—are known as Surface Caterpillars and cut-worms. These caterpillars are general feeders on many different plants, but are specially troublesome on potatoes, turnips, mangolds (Fig. 30).

*Treatment for Surface Caterpillars.*—Disturbance and destruction of the caterpillars by harrows in the case of young roots, and frequent working of the soil in winter and spring; caterpillars and pupæ escaping death by crushing would be exposed to rooks, gulls, and lapwings.

Evidence accumulates as to the value of poultry against these caterpillars. Theobald<sup>1</sup> writes: "It was found that where both mangolds and swedes were attacked and being rapidly destroyed by cutworms, that the fowls worked round each attacked plant, and soon cleared the larvæ out and so saved the crop. The value of poultry for clearing the potato land before sowing corn has also been clearly demonstrated." Mr F. O. Mosley, reporting to the Ministry of Agriculture and



Fig. 30.—*Potatoes spoiled by the caterpillars of Agrotis segetum.*

In one of the potatoes the caterpillars are seen at work. From nature. Reduced.

Fisheries in 1921, intimated great destruction of mangolds and potatoes and the ruining of a plot of 60,000 chrysanthemums. Mr Mosley wrote: "Greatest help proved to be in allowing fowls to range over infested land. Early in August fowl-houses were distributed over fields (three or four to six-acre field), and this, together with keeping the land clean, enabled great numbers of larvæ to be cleared out."

Potatoes should be well earthed up, and this should be done early.

A favourite method in Canada of destroying the caterpillars is by the use of poisoned bran. Mr Arthur Gibson, the Dominion Entomologist, gives formulæ, and describes his method thus.<sup>2</sup> For poisoned bran mixture the formula is—

<sup>1</sup> Research and Advisory Department, S.E. Agricultural College, Wye. Annual Report, 1920-21.

<sup>2</sup> Circular No. 9, revised April 1921. Dominion of Canada Department of Agriculture. Entomological Branch.

Bran . . . . .	20 lb.
Molasses . . . . .	1 quart.
Paris Green . . . . .	$\frac{1}{2}$ lb.
Water . . . . .	2 to 3 gallons;

Mix the bran and Paris Green thoroughly in a wash-tub while dry. Dissolve the molasses in the water, and wet the bran and the Paris Green with the same, stirring well so as to damp the bran thoroughly. Against cutworms in gardens a simple formula is—

One quart of bran ;  
 One teaspoonful of Paris Green ;  
 One tablespoonful of molasses,

with sufficient water to moisten the bran.

In gardens with rows of vegetables the mixture should be scattered thinly along the rows on either side as soon as cutworm injury is noticed.

The poison is best scattered or placed round, but not touching, flower plants after sundown, so that it will be in the very best condition to attract the cutworms when they come out to feed at night. This poisoned bran has been used in this country sometimes with and sometimes without success.

### *The Laburnum Leaf-mining Moth (Cemiostoma (Leucoptera) laburnella).*

This is a beautiful little moth, measuring  $\frac{1}{4}$  of an inch in spread of wings. The front-wings are white, with yellow line and spots ; hind-wings greyish ; the wings show pale fringes. The moths may be found in the day-time resting on and near laburnum trees in May. The females lay their eggs on the under sides of laburnum leaflets, and the caterpillar on hatching mines out a small tunnel that leads to a discoloured green-grey blotch or patch, which shows, on being held up to the light, a number of spiral rings, the frass of the mining caterpillar.

The caterpillar, which measures  $\frac{1}{4}$  of an inch in length when full grown, is pale-green, with grey head and brown jaws. The body segmentation is well marked, and the legs are sixteen in number. The full-fed caterpillar leaves the blister and pupates under cover of a white cocoon, which is attached to the leaves. The cocoon stage is reached in July. A new brood of moths issues from these cocoons in about a fortnight, and the caterpillars, from the eggs laid, are full grown in October. The full-grown caterpillars of the second brood leave the blistered leaflets, and let themselves down by a silken thread to stem or the soil below for pupation. The

winter is passed in the pupal condition, the moths coming away in the next May.

### *Ullaging of Wines due to Moths.*

Theobald<sup>1</sup> has described how the caterpillars of a small Tineid Moth (*Oinophila V. flavum*) are a cause of very considerable loss in bottled wines, owing to their eating into corks, with a consequent leakage. I received specimens of wines spoiled in a similar way. The corks showed pellets of excrement; and webbing of the caterpillars and excrement were also present under cover of the paper which still remained round some of the bottles. The bottles were from a cellar. On dissecting the bored corks I found white caterpillars, and on some of the wines being rebottled drowned caterpillars and frass were found. Careful search enabled one to find pieces of two different little moths. A fore and a hind wing were submitted to Mr J. Hartley Durrant, who was kind enough to determine the moths as *Endrosis lacteola*, Schiff (from the hind-wing), and *Borkhausenia pseudospretella* (from its fore-wing).

*E. lacteola* is found all over Britain in houses, where its caterpillar normally feeds on refuse and rubbish. *B. pseudospretella*, also distributed over Britain, though not really a native, is similarly found in houses, and its caterpillar feeds on dry plant and animal matter. The wines affected in the present case were, in descending order of damage, Champagne, Madeira, Beaune, and Sherry.

### HUMBLE OR BUMBLE BEES.

These comfortable-looking hairy bees with the loud hum—"bees did roar like midget bulls," the poet writes—are rather favourites with many people. They are very useful agents in the pollination of flowers, a number of which would fail to produce seed but for the visits of these insects. They vary among themselves in the length of their proboscis or tongue, some being able to pollinate deeper-tubed flowers than others. Some species with shorter proboscis, unable to reach the nectar which at the base of the flower tube is out of reach of the stretched-out tongue, and yet greedy for the honey, burglariously bite holes in the flower from the outside, and so steal honey by a back-door without being of assistance as pollinators to that special flower. One of the species unfortunately introduced to New Zealand, along with other longer-proboscid helpful species, is in comparison a shorter-tongued bee—viz., *Bombus terrestris*—and this bee is actually harmful to certain nectar-producing flowers by the

<sup>1</sup> Second Report on Economic Zoology, British Museum, 1904.

holes it bites in these flowers in its desire for the nectar. *Bombus terrestris* is a common British species, black in colour, with a deep yellow band on the front of the thorax, another yellow band across the abdomen, and a tawny-white (not a pure white) tail. While common, it is outnumbered in Scotland by *Bombus lucorum*, which has the yellow bands paler and the tail pure white.

There are marked differences in the life-history and habits of the Humble-Bee as compared with the Hive or Honey Bee. Both are social insects living in communities, and in each community there are three castes—males or drones, queen or fertile egg-laying female, and workers or females stunted in development and unable to pair,—but the Humble-Bee community has far smaller numbers. Great stores of honey are not collected. Only the newly-developed young queens of the season survive the winter, all the other members of the community dying at the end of the season—viz., old queen, workers, drones. The Humble-Bee drones are not a drain on the community, for they have the grace to forage for themselves. There is no “massacre of the drones” by infuriated females. There is not the perfected arrangement and tidiness characteristic of the hive of the Honey-Bee. As Shipley so happily says: “The economy of the household of the Humble-Bee is more attractive to the average man than is that of the bee-hive. It is less ordered, less specialised, and is carried on more on the lines of the comfortable city firms of a century ago, and less on the lines of an up-to-date trust or syndicate.”<sup>1</sup>

The general life-history of a Humble-Bee may be described by taking as a type *Bombus lapidarius*, the Stone Humble-Bee, so called from its nests being, where opportunity offers, under large stones. The queens, workers, and males are black, with red tails, the male having in addition a sulphur-yellow band on the thorax. Sladen,<sup>2</sup> to whose fine volume on Humble-Bees all students of these insects are greatly indebted, points out that the only other black *Bombus* with a red tail is *Bombus derhamellus*, which is a smaller species with red hairs on its pollen-basket (the hairs on the pollen-basket of *B. lapidarius* are black). The cuckoo or parasite bee of *B. lapidarius* is also black, with a red tail, but it will be described further on.

Young queens of *Bombus lapidarius* come out from their hibernating places in spring. These queens have been fertilised in the previous summer. It is interesting that of the year's cycle of *Bombus* eight or nine months are taken up in the resting torpid condition of the young queens. The young queen searches out in spring a convenient place for a nest. Such a nest has an entrance gallery twelve or more inches long, and

<sup>1</sup> ‘Studies in Insect Life,’ by Sir Arthur Everett Shipley, p. 68.

<sup>2</sup> ‘The Humble Bee,’ by F. W. L. Sladen, p. 154.

the nest at the end of the gallery may be the deserted disused old nest of a field-mouse. With moss or dried grass a little chamber is first made, and in a cavity in its centre a lump of mixed honey and pollen is placed. The queen has previously carried home the honey and pollen, collected laboriously by herself. On the top of this lump of bee-bread the queen now rears a cell of wax (the wax is a secretion from her own body), and, laying a batch of eggs in this cell, the queen closes up the cell. Near the cell with its eggs, the queen has made another waxen cell or honey-pot, in which honey is stored, on which the queen may nourish herself while she remains in the nest to incubate her eggs, or while she is kept indoors by unfavourable weather. The queen covers the cell containing her eggs with her body—*i.e.*, sits on her eggs. The eggs hatch in four days into curled legless cream-white grubs, that begin to nourish themselves on the lump of bee-bread. The developing grubs are also fed by the queen, who for the purpose nibbles a hole in the waxen cell, and squirts in a mixture of disgorged honey mixed with a little pollen; the hole is then closed up again. As the grubs increase in size they are fed individually by the queen through openings made for the purpose. The grubs remain under cover of the wax cell, not being visible, the queen adding more wax as the grubs grow, and repairing any cracks in the cell due to pressure from the increase in size of the grubs. The waxen cell shows in time a series of bulges corresponding to the position of individual grubs. In less than a fortnight, in favourable conditions, from the laying of the eggs, the grubs are full grown, and each spins for itself a thin but tough pale-yellow cocoon, and becomes a pupa. The queen now removes the wax covering, and the cocoons are revealed standing up on their ends. On these cocoons the queen stretches herself, furthering development by the heat of her body. In between three and four weeks from the laying of the eggs the new bees are ready, and make their way out of their cocoons, aided by the queen. The new young bees are all workers; soon they attain their characteristic coat and colour, and in three or four days are out foraging. The queen lays other batches of eggs in wax-cells placed on the cocoons, and so on, and as soon as workers enough have been produced she ceases to go out and collect, and devotes herself to egg-laying and the rearing of the grubs. As the colony increases in size, honey and pollen stores increase in the nest. The honey is placed, some of it in old cleaned-out cocoons and some in specially-made waxen honey-pots, while the pollen is placed in special cells nearer the brood cells than the honey. As the season goes on, instead of workers being reared eggs are laid, from which males and young queens are developed. These young queens are soon fertilised. After fertilisation they do



not return to the nest, but each chooses out a place in which to lie dormant until a new season comes round. The hibernating place is very often a slight tunnel scooped out in the side of a bank, a northerly or north-westerly exposure being chosen so that the hibernating young queen may not be warmed up and tempted out so early in the next year as to be exposed to death from following severe weather. Towards the close of the season the old queen, now spent in strength, falls off in her egg-laying. By this time she may have lost much of her hair—indeed puzzled finders have sent me for determination dead old queens smooth and polished and quite hairless. The workers that are left die as well as the queen, and the colony comes to an end.

*The Cuckoo or Usurper Humble-Bee.*

Some of the Humble-Bees have got an enemy in the form of a Usurper Bee very like themselves. This Usurper or Cuckoo



Fig. 31.—*Nest of Bombus lapidarius usurped by Psithyrus rupestris.*  
From nature. Somewhat reduced in size.

enters the nest of the Humble-Bee that it parasitises and kills the queen. The Usurping queen then takes possession, lays her eggs, and the resulting brood of the Usurper is reared by

the workers of the dead queen. The Usurpers or Cuckoo Bees have only males and females; there is no worker caste, as all the necessary worker functions are performed by the workers of the usurped nest. The generic name of the Usurper



*Psithyrus rupestris*, Queen.

Natural size. From nature.



*Bombus lapidarius*, Queen.

From nature. Natural size.

Fig. 32.

Bees is *Psithyrus*, a word which means whisperer or twitterer, owing to their lower softer hum.

The nest shown in Fig. 31 was dug up and sent to me by Dr Oliver H. Wild. It is the nest of *Bombus lapidarius*, usurped by its Cuckoo Humble-Bee (*Psithyrus rupestris*).



*Bombus lucorum*, Queen.

Natural size. From nature.



*Psithyrus distinctus*, Queen.

Natural size. From nature.

Fig. 33.

When Dr Wild dug the nest up it showed the dead foundress queen (*Bombus lapidarius*) and thirty-six of her workers; also the queen Usurper (*P. rupestris*), five new young *P. rupestris* queens, and twelve new drone or male *P. rupestris*.

The nest as now exhibited in Fig. 31 shows a few empty worker cocoons of *B. lapidarius*, large queen cocoons and

smaller male or drone cocoons of the Usurper, also some empty Usurper cocoons. The nest was dug by Dr Wild on 14th August 1922; it was situated 2 feet 4 inches below the surface of the soil, and was approached by a tunnel 6 feet in length. The foundress queen, *Bombus lapidarius*, had made use of the deserted nest of a field-mouse.

The Usurping Psithyrus very closely mimics the Humble-Bee whose nest it parasitises. Fig. 32 shows a *Bombus lapidarius* queen and the Usurping *Psithyrus rupestris* queen. Fig. 33 shows a *Bombus lucorum* queen and its Usurping *Psithyrus distinctus* queen. *Bombus* and *Psithyrus* may be thus contrasted:—

BOMBUS.	PSITHYRUS.
Males, females, workers.	No worker brood.
More active on the wing and generally.	Somewhat awkward in comparison, and lethargic.
The wings vibrate more rapidly in flight, and so the hum is louder and higher in pitch.	The pitch of the hum is lower and the hum softer.
Wings lighter.	Wings darker.
More hairy.	Not so furry, and therefore the abdomen seems more shining.
Body not so hard and protected.	The queens have the skin thick and hard, and the joints of the abdomen so close that chinks are not left through which a sting can be thrust.
Sting weaker.	Sting stouter and more curved.
The queens and workers have a pollen-basket or carrier known as the corbicula. This is the outer surface of the tibiae of the hind legs; this outer surface is concave, smooth, and bare, with long stiff hairs along the two edges of the tibia.	No pollen-carrier, as the queens do not collect. The outer side of the hind tibiae is not shining, but the whole surface is convex and covered with short hair.

The earlier opinion was that the *Psithyrus* bees lived in the nest of the Humble-Bee, doing no more harm than feeding at the expense of the *Bombus* stores. Sladen proved the parasitic nature of such species as he had opportunity to observe, *B. lapidarius* being one he found to be parasitised.

The *Psithyrus* queens come out from their winter shelter-places later than the *Bombus* queens, and they enter a *Bombus* nest at a time when the number of *Bombus* workers is small. The *Psithyrus* displays no aggressiveness at first, tries indeed to be as unobtrusive as possible, and remains unmolested for a time. The *Bombus* queen may even grow accustomed to the presence of the Usurping *Psithyrus*. Quoting Sladen, "The alarm of the *Bombus* queen disappears, but it is succeeded by a kind of despondency. Her interest and her pleasure in her brood seem less, and so depressed is she that one can fancy she has a presentiment of the fate that awaits her. It is by no means a cheerful family, and the gloom

of impending disaster seems to hang over it.”<sup>1</sup> The number of the *Bombus* workers increases, and gradually the *Psithyrus* queen shows increasing interest and activity, and prepares to lay her eggs. This enrages the *Bombus* queen, and a fight takes place, which, owing to the mailed armour of the *Psithyrus* queen (her neck is the weak point), results in the death of the *Bombus* queen and such workers as may have gone to her assistance. The Usurper proceeds to lay her eggs, and when these hatch the brood is fed and tended by the *Bombus* workers. From the *Psithyrus* eggs males and queens develop, and these young queens, after being fertilised, seek shelter or winter quarters in the same way as described for the young *Bombus* queens.

### SOLITARY BEES (*Megachile*).

From Auldgirth, Dumfries, came the cells and larvæ of one of these bees. The cells had been placed in the rotten wood of a greenhouse. There are many different genera of Solitary Bees, all differing from the Social Bees in that they do not live in communities and no worker caste is found, only males and perfect females. This *Megachile* (the word means large lip, this being a feature of this section of bees), after boring a tunnel in the soft decayed wood, flies to a rose or other plant, and bites a series of elongated oval pieces out of the sides of the leaf. These in turn are carried to the prepared tunnel, and so fixed and rolled as to make a cell half an inch and over in length, closed below, the closed end being rounded. This is all done by the fertilised female, which provisions the cell with a mixture of pollen and honey. An egg is then laid on this provision, and the bee then proceeds to cut a series of perfectly round pieces of leaf, which are fitted in to form a lid to close the cell. Another cell is then made and provisioned, and so on until a number of such cells exist one above the other. The egg in due course hatches; the grub becomes full-fed on the stored provision, and pupates in the cell, the males or females making their exit when ready.

### THE GOOSEBERRY AND CURRANT SAWFLY (*Nematus ribesii*).

The sawflies, like the bees, belong to Hymenoptera. The adult is a four-winged insect, and measures just over a third of an inch in length and half an inch in spread of wings. The prevailing colour of the female is pale-yellow, with dark spots on the thorax; the somewhat smaller narrower male has thorax and abdomen dark.

<sup>1</sup> 'The Humble Bee,' by F. W. L. Sladen, p. 65.

The caterpillars are very destructive to the leaves of gooseberry, and in a less degree to currant. The Gooseberry Sawfly caterpillar varies in appearance at different stages. The newly-hatched caterpillar is white or greenish-white, with a light-coloured head, dotted with black on the sides; the pale colour changes to green when the caterpillar starts feeding; after a moult the head is black and the body green, with a large number of scattered black dots. In this condition the caterpillar remains until its last moult, when the colour of the body changes to pale-green, except in front and behind, where it is orange-coloured; further, the head is pale in colour, with black dots showing, but there are no black dots on the body. The caterpillar has twenty legs. The full-grown caterpillar measures three-quarters of an inch or so.

The females are found in flight in April and May, when they lay their eggs on the under side of the leaves close to the veins. The Sawfly Family of insects receives its common name because the egg-laying apparatus of the female is modified to form minute saws, by whose action slits are cut in leaf or bark for the reception of the eggs. In the Gooseberry Sawfly, however, no distinct wounds are made, but the eggs are just fixed to the veins. By a week the caterpillars have hatched. They feed at first together at their hatching places, but soon distribute themselves over the plant. The leaves are at first skeletonised, and then eaten to the main ribs.

The caterpillars are full grown in three weeks to a month, when they leave the plant and descend to the soil for pupation. They spin a small oval brown-yellow cocoon of silk, under cover of which they pupate. The cocoons are in the surface soil or among the soil litter and rubbish. The pupal stage lasts for three weeks, when the second brood of sawflies comes away. In favouring conditions there are three broods in the year. The cocoons of the last brood lie in the soil below the food plants, over the winter, the adults coming from these in the next April and May.

Defoliation means loss of feeding and breathing and transpiring area. New leaves mean a drain on the reserve of the plant. There is a failure in fruit, and with repeated defoliation the weakened plants die.

*Treatment.*—Leaves with many eggs should be pulled and destroyed. If on a small scale in a garden, hand-pick the caterpillars soon after hatching. Spray with arsenate of lead whenever the caterpillars are noticed. Bushes in fruit should not be sprayed with this spray within five weeks of the fruit being gathered. Or spray with hellebore, 1 ounce to 3 gallons of water. The hellebore does not dissolve, therefore the spray fluid should be kept agitated; 2 ounces of flour added to the spray-fluid aids adhesion. Hellebore is also a poison, therefore it should not be used within four weeks

of gathering the fruit. Hellebore is dearer than arsenate of lead.

Where the caterpillars have been at work in the summer the soil below the bushes should be, where possible, removed for a depth of two inches, and replaced with fresh soil and manure. This should be done in winter, the purpose being to remove the cocoons from which the spring adults would come.

### TWO CHERMES ENEMIES.

For some years now Chermes or *Gillettea cooleyi* has been named in the 'Transactions' as an insect that should be looked for and reported. The Forestry Commissioners have now issued a Bulletin (Bulletin No. 4) describing the observations made on this insect by Mr R. N. Chrystal, B.Sc., who was appointed in 1920 to investigate the life-history of this Chermes.

In the complete life-cycle of a Chermes there are five main generations.<sup>1</sup> In the case of *G. cooleyi*, while the complete cycle of five main generations has not been followed up in any one special case, yet by a putting together of the observations of Gillette in Colorado and Chrystal in British Columbia, and by the observations and experiment of Chrystal in Britain, one can safely say that the five main generations are possible where the conditions are favourable.

In the case of *G. cooleyi* the two host trees are Spruce and Douglas Fir, but as far as observations have gone in Britain the insect appears to be able to carry on, on the Douglas Fir alone, without the intervention of the generations on the primary host Spruce. *G. cooleyi* is an American species, which has been introduced into Britain in commerce—probably on nursery stock—and the Forestry Commission investigation was entered on not only because of reported damage due to *G. cooleyi* in America, and because introduced species, if they become acclimatised, may do worse damage in the country of their adoption, but also because the two possible host trees necessary for a complete life-cycle of five generations—viz., Sitka Spruce and Douglas Fir—are trees which at the moment have a considerable interest and importance for British foresters.

In America galls due to *G. cooleyi*, and the gall-inhabiting generation, have been found on three different spruces—viz., Colorado Blue Spruce (*Picea pungens*), Engelmann's Spruce, and Sitka Spruce, the intermediate host being Douglas Fir.

*G. cooleyi* was first recorded in Britain in 1913 on the Oregon Douglas Fir, and since then has been found on the Douglas

<sup>1</sup> See my report in 'Transactions' for 1918.

in a number of places in England, and in Perthshire and Peeblesshire in Scotland. Notwithstanding careful search, under the auspices of the Forestry Commission, no gall or gall stages of the insect have been found in Britain, and this in spite of the fact that Chrystal in his experimental and observational work has proved that a generation of winged migrants can develop on Douglas Fir and pass to Sitka Spruce, giving rise to a succeeding generation of males and females. It is the progeny of this sexual generation that would become the foundresses of the gall-making generation on Sitka Spruce.



Fig. 34.—*Chermes cooleyi* on Douglas Fir in Perthshire.

From nature. Reduced.

In Chrystal's observations the sexual generation died off without offspring. It will be fortunate for the Sitka Spruce in Britain if this failure of the sexual generation be constant, for this will mean the absence of galls on the Sitka, and the gall-causing and gall-inhabiting generations do proved harm in America.

There is further cause for encouragement in the fact that on the Douglas, *G. cooleyi* is not a bark-attacking but a needle-attacking species. I have seen the needles of Douglas perfectly white with the waxy excretions of *G. cooleyi*; but as far as observation has gone no serious damage has yet been proved on the Douglas from the presence of *G. cooleyi*.

## THE CHERMES OF SILVER FIR.

In this case *Abies*, the Silver Fir genus, is the intermediate host, and a Spruce (*Picea*) the primary host. The Silver Fir Chermes have been referred to the genus *Dreyfusia*, but a full account is still lacking regarding the two species *Dreyfusia nüsslini* and *Dreyfusia piceæ*, and indeed it yet remains for decision whether there be two separate species or really only one. The knowledge we have we owe to Nüsslin and Börner working in Germany, and Marchal in France. Dr H. M.

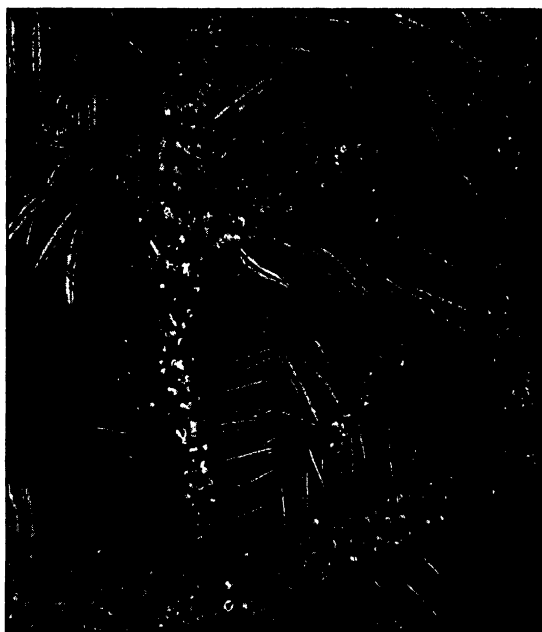


Fig. 35.—Branch of young Silver Fir attacked by Chermes.

Natural size. (Original.)

Steven of the Forestry Commission has also made observations in Scotland.

Very black accounts have been given by different proprietors and growers regarding the damage to our Silver Fir (*Abies pectinata*), and in some places the growing of it has had to be abandoned. Soil conditions may have been the cause of the failure in some cases rather than the *Dreyfusia* (Chermes) which was present on the plants, but in other cases where *Abies pectinata* had been accustomed to do well the



only explanation for the dying off and destruction of *Abies pectinata* seemed to be the Dreyfusia insects.

In the complete life-cycle of *Dreyfusia nüsslini* there are five generations and two host trees—viz., *Picea orientalis*, the primary host; and typically *Abies nordmanniana* as the secondary host. I have records of damage to *A. nordmanniana* from Sutherland, Aberdeenshire, Perthshire, Mid-Lothian. Viscount Novar and Sir Herbert Maxwell have recorded very severe loss of *A. nordmanniana*.

Unfortunately the Dreyfusia (Chermes) has spread to *Abies pectinata* with disastrous results to this secondary host.

For information, the life-cycle of *D. nüsslini* worked out by the Continental workers named may be summarised :—

Generation I.—the Foundress Generation.—The first stage larva passes the winter on a bud of *Picea orientalis*, and in the next spring wakes up and completes development to the adult condition. These adult foundresses are all females. These virgin females lay eggs which hatch into larvæ, and by the sucking of the Foundress and the young Dreyfusia (Chermes) from her eggs a gall forms. The gall is round, reddish, and then green with reddish lines.

Generation II. develops under cover of the gall, and when the gall opens the Dreyfusia (Chermes) walk out. After a moult they attain wings, and migrate to an *Abies*. All are virgin females. On the *Abies* these migrants lay eggs. The young from these eggs move from the *Abies* needles in August to anchor themselves by their piercing mouth-parts at the bases of needles and buds, where they hibernate. In the next spring these young Dreyfusia (Chermes) renew their feeding, and after three moults become adult, the adults of Generation III. The adult stage can be attained by the end of April. All are wingless virgin females. Unfertilised or virgin eggs are laid by these adults, and two kinds of larvæ are found—viz. :—

- (a) Larvæ (known as *sistentes*; *sistens* means standing still), which pass the summer and winter as such (the

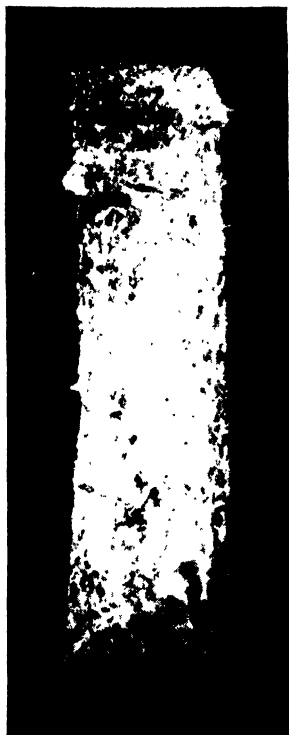


Fig. 36.—*Chermes* on Silver Fir.  
From nature. Slightly enlarged.

same as and like the hibernating larvæ mentioned above), or in some cases adult stage may be attained in the autumn, and eggs laid, from which come *sistentes* larvæ, which hibernate (this has been observed in France by Marchal).

- (b) Larvæ *progreidentes* (not standing still but developing), which pass to the *Abies* needles. These larvæ develop along two possible lines, giving two types—viz. :—

(x) Larvæ which after a fourth moult are adult, but have no wings. These adults lay their eggs on the underside of *Abies* needles. The eggs are covered with wool (wax), and hatch into *sistentes* larvæ, which move to the branches and buds (Marchal).

(y) Larvæ which after a fourth moult become adult and winged, and fly to *Picea orientalis*, perhaps to *Picea excelsa*. These winged adults are the preparers for the sexual generation, and are known as the Sexuparæ generation or Generation IV. These winged Sexuparæ lay their eggs on the *Picea* needles. From the eggs come larvæ which suck the *Picea* needles, and which after four moults attain adult condition. Some of these adults are male, some female, the Sexual Generation or Generation V. Pairing takes place, and a fertilised female lays one egg near a bud, this egg being partly covered with wool (wax). From this egg hatches the first stage overwintering larva with which we began this life-history.

In view of this complete life-cycle as followed out in France about 1913, it is interesting to note that Dr Steven, researching in my laboratory at the University in 1916, conveyed *D. nüsslini* from a gall on *Picea orientalis* to *Abies nordmanniana* and to two other species—viz., *A. firma* and *A. grandis*. On all three Silver Firs eggs were laid, and these duly hatched. The larvæ from the eggs on *A. firma* and *A. grandis* died a few days after hatching, but in the case of *A. nordmanniana* the larvæ lived, hibernated on the tree, and awakened up in the next spring and developed.

#### SOME DIPTEROUS INSECTS.

Two specimens, both females, of *Tabanus sudeticus* came from the north for determination. *T. sudeticus* is a large Tabanid, one of the largest Diptera.

The general appearance of this fly can be seen from the figure (Fig. 37). *T. bovinus* resembles it closely in appearance, the two species not being easy to separate. The flies are found from midsummer to early autumn, and are creatures of the sunshine. A loud hum accompanies their flight. The

mouth-parts of the female are very formidable, and are fitted for piercing the skin and sucking the blood. They consist of two dagger-like structures, the epipharynx and hypopharynx; two lancet-like pointed structures, the mandibles; and two structures with minute saw-like edge, the maxillæ—all six lying in a fleshy sheath, the labium. The mouth-parts of the

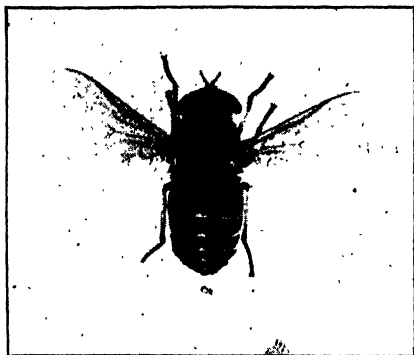


Fig. 37.—*Tabanus sudeticus*.

Natural size. From nature.

male are less formidable, the diet of the male not being a blood diet but consisting of honey and plant-juices. It is only the adult females which are harmful to stock; they visit and puncture for a meal of blood. The eggs are laid on plants that are growing in marshy places, or in water, or in some situation near the moist soil or water, into which the

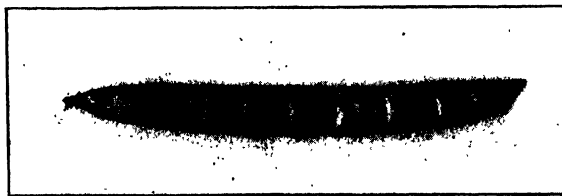


Fig. 38.—*Larva of Tabanus biguttatus*.

From nature. Natural size.

larvæ can pass on hatching. The larvæ are carnivorous in diet, feeding on grubs, worms, and such animal life as they meet with in their habitat. The larva has an elongated form, tapering to the two ends. Fig. 38, that of the larva of an African species, will serve to give an idea of the appearance of these larvæ. The head has mandibles and maxillæ fitted for seizing its prey. Eleven joints follow the head, of which

the first three are thoracic, the others abdominal. The abdominal joints have fleshy projections, most marked on the under surface, where the processes aid in locomotion. The hind breathing apparatus is situated at the tip of a pointed projection.

THE HOLLY LEAF MINER (*Phytomyza* (*Chromatomyia*) *ilicis*).

Specimens of holly leaves like those shown in Fig. 39 keep coming to me for report. The damage is widespread, and is

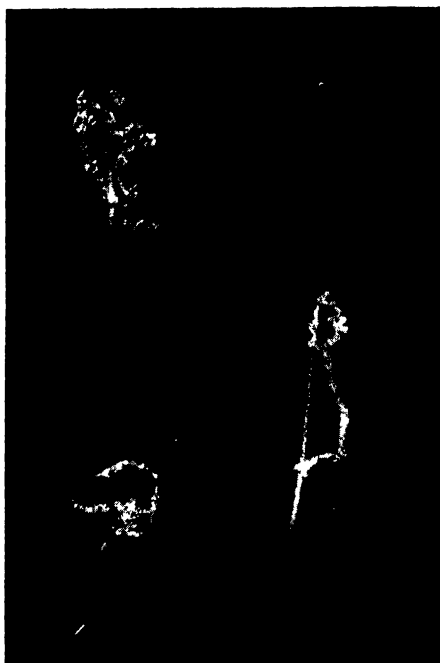


Fig. 39.—Leaves showing mine and blotch made by larva of the Holly Leaf Miner.

From nature. Reduced.

due to the larva of the above fly. The fly measures  $\frac{1}{10}$  of an inch in length; it is black, with pale proboscis and balancers. Typically the eggs are laid in June on the underside of the leaf. Though the larva hatches in just over a week, the blisters on the leaf may not show until late autumn. This rather puzzled people until Miall and Taylor explored holly leaves that showed a red spot on the midrib of the leaf. This spot indicates the place where the larva on hatching bores

and enters. Miall and Taylor found that this young maggot bored into the vessels in the vascular bundle of the midrib, and could remain there for two to four months, obtaining abundance of food and air. In time the maggot leaves the midrib and mines in the soft tissue of the leaf between upper and lower epidermis, but especially in the soft tissue (the *palisade parenchyma*) towards the upper surface. The larva feeds on till the next spring, when it pupates in the blotch or blister, the flies coming away in May and June.

The larva is a legless maggot  $\frac{1}{4}$  of an inch long, provided with cutting mouth-hooks and with two breathing knobs behind the poorly-developed head end, and two on the hind-most joint of the body.

The puparium is brown in colour (it is really the last moulted dried skin of the larva, which is not thrown away but retained as a cover, under which the various changes take place that result in the perfecting of the future fly), ringed, and somewhat glossy. It, as one would expect after what has just been stated, shows the respiratory knobs in front and behind that were present in the larva.

Two problems are present that sometimes puzzle the observer—viz., How does the minute soft fly manage to get out of the hard encircling puparium, and, this accomplished, how does the fly get out through the hard skin of the holly leaf? Well, like so many flies, the adult when ready can protrude from the head a little bladder-like structure into which blood is sent. This swollen structure—made bigger than the head, exerts pressure, and the front end of the puparium is ruptured. The complete exit from the leaf is not so difficult, because the maggot takes care before pupation to cut an exit hole for the future fly in the skin of the leaf.

#### *The Chrysanthemum Leaf Miner (Phytomyza geniculata).*

This little fly is a grievous enemy of chrysanthemums and some related plants of the same Order, Compositæ. I have had many complaints with accompanying leaves mined by the maggots of the fly. Cineraria leaves were also sent, from which, as well as from the chrysanthemum leaves, I bred out the same fly, *Phytomyza geniculata*. Fig. 40 gives a good representation of the mines made by the larvæ. Seven or eight or more eggs may be laid on the same leaf, and the result from the mining of so many larvæ is the destruction of the leaves. Early-attacked plants fall off in vigour, and blooms are small or absent. Even at the best the plants are rendered unsightly.

The life-history is passed through rapidly, and generation follows generation. The taking of the plants indoors helps to give a favourable temperature for the work of the maggot.

The larva is a tiny legless maggot, at most  $\frac{1}{8}$  of an inch in length when full grown. Pupation takes place in the mine. Fig. 41 shows the fly greatly magnified. The larva, greatly magnified, is shown in Fig. 42. The black mouth-hooks are seen in front, and the projections at the extreme front end are spiracles. One of the hind spiracles is also seen.

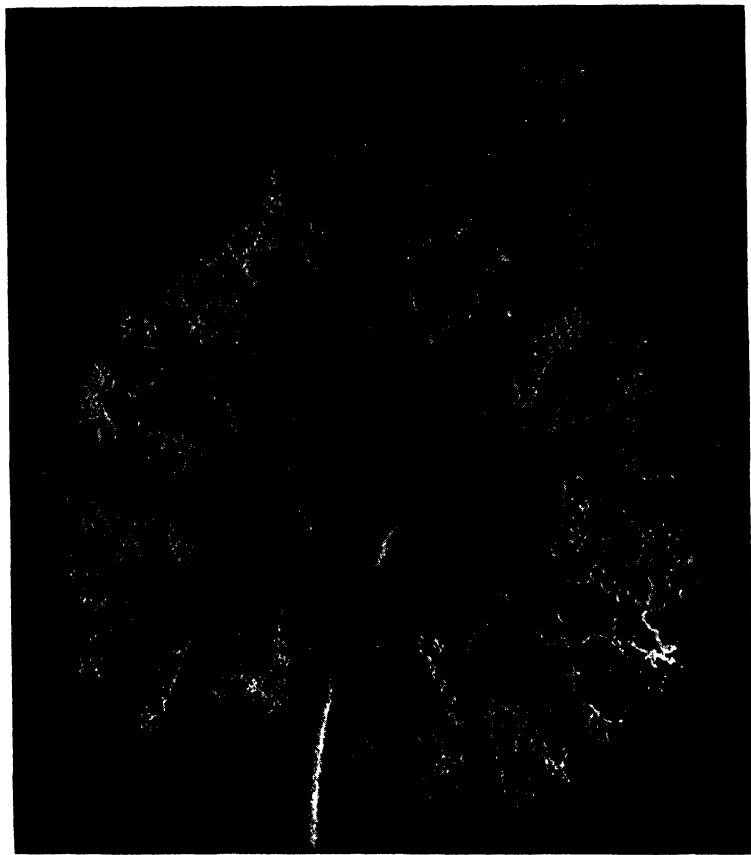


Fig. 40.—*Leaf of Cineraria showing the mines of the larva of Phytomyza.*

From nature. Reduced.

Fig. 43 is a much magnified photograph of the puparium ; the two little prongs at the left-hand end of the figure are the old anterior spiracles of the larva, and the two projections at the right-hand end are similar posterior spiracles. The puparium was cleared in reagents previous to its being figured, and as a result the future fly can be seen inside.

Satisfactory treatment is very difficult. Hand-picking and the destruction of the attacked leaves is a wisely-practised measure if it be done before the disease has made headway.



Fig. 41.—*Phytomyza geniculata*.

From nature. Greatly magnified.

To keep cuttings free by this means is not so difficult, but almost impossible is the task with one hundred or more plants. Further, it is discouraging to the large grower to

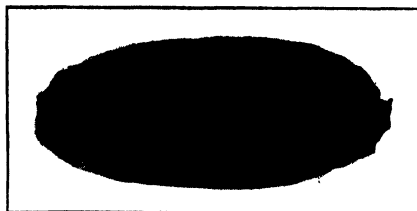


Fig. 42.—*Side view of Larva of Phytomyza geniculata*.

From nature. Magnified.

clear the mined leaves away from a batch of plants, only to find them attacked again in a fortnight or less. The annihilative measure must be practised by all surrounding growers, otherwise the conscientious fighter is penalised by getting a new infection from his neighbour.

Quite a number of sprays are tried by different growers in attempting to prevent the fly from egg-laying, but no very satisfactory results are obtained.

The maggots and puparia are under cover in the leaf, and therefore difficult to reach. In Canada, in efforts to kill other miners, some success attended the use of nicotine solutions, and Theobald<sup>1</sup> repeated the experiments at Wye, testing various substances against Celery Fly and Chrysanthemum Fly. From these experiments Theobald recommends, for the killing of maggots and pupæ, 5 parts of 98 per cent nicotine in 100 of water, 2 ounces of soap being added to every 2 gallons of the wash. In American experiments quoted in the 'Journal of Economic Entomology' for December 1912, "1 part of nicotine in 400 parts water killed the larvæ of the Chrysanthemum

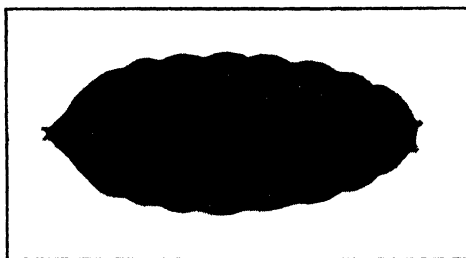


Fig. 43.—*Puparium of Phytomyza geniculata from leaf of Chrysanthemum.*

From nature. Greatly magnified. The developing fly is seen through the cleared puparium.

mum Leaf Miner and newly-formed pupæ, and 1 part in 200 killed pupæ of all ages." Especially successful was what is known as Black Leaf No. 40, an American preparation, which is a concentrated solution of nicotine sulphate.

#### *A Miner in the Leaf-stalks of Swedes.*

Early in August specimens of Swede Turnip were sent to me. Sown in May, the plants had done well until towards the end of July they "began to go down in the shaw." I dissected the leaf-stalks, and found many maggots at work. Some of the main ribs of the leaves were also being mined. The maggots were those of the fly *Phytomyza flavicornis*. As far as I know, this is the first recorded case of such attack in Scotland. Some of the leaf-stalks were so tunnelled as to be brown and spoiled, with the result that their leaves turned yellow and drooped.

<sup>1</sup> "Report on Economic Entomology for year ending September 1913," Wye, p. 296.



Fig. 44 is a greatly-magnified photograph of one of the larvæ, and a look at it will show how like it is to the *Phytomyza* larvæ of the Chrysanthemum Fly. At the right-hand end the dark horny mouth-hooks are seen and a spiracular projection. At the hind-end one of the posterior spiracles is visible. The larva examined under the microscope showed great numbers

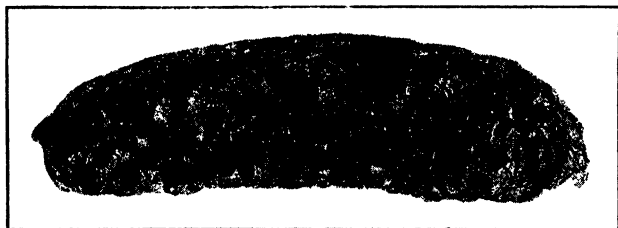


Fig. 44.—Side view of larva of *Phytomyza flavicornis*.

From nature. Magnified.

of granules—well seen in the figure. At present I have these under investigation. Theobald has twice recorded from England, in 1910 and in 1913, this enemy of Brassica. It was sent to him by a Blackheath correspondent, in turnips and such other Brassica plants as cabbage, brussels-sprouts, and cauliflower.

#### *The Frit Fly (Oscinis frit).*

The maggots of this fly continue to be very harmful to oats all over the country. Samples of oat plants containing the larvæ came to me from Mid-Lothian in July; in this case the crop was badly damaged. Later my correspondent wrote to me: "I have tried fallow and lime, a crop of wheat, hay and oats, and it is very badly infected this year with Frit Fly. I have also taken barley after green crop, then oats, and seeded down with hay; then it was not quite so bad, with green crop on the lea instead of oats. I have never found it in two-year-old pasture. I have also tried change of seed and different kinds of oats, and the only kind not attacked was White Seed (Tam Finlay), which is a very thin oat. In my experience the best treatment has been to sow 2 cwt. kainit in February—the other manures with the seed."

I have reported on Frit in several of the recent years' 'Transactions,' and little more that would be helpful can be added at the moment. I have mentioned Wild Oat as a host plant. Mr Herbert W. Miles<sup>1</sup> writes in the 'Annals of Applied Biology': "The Frit Fly was found on 19th November,

<sup>1</sup> 'The Annals of Applied Biology,' Nov. 1921, p. 176.

when twelve larvæ were taken from one plant of tall oat grass. The plant was growing in the hedgerow bordering a field in which oats were badly attacked previously, so evidently the autumn brood had been laying in the neighbouring grasses. Later, larvæ were found feeding in perennial ryegrass, golden oat, *Holcus lanatus*, and *Agrostis stolonifera*. In early February an attack on wheat after seeds was noted." Mr Miles also refers to the question of possible migration of the larvæ, and of the depth in the soil from which the future flies might be able to come to the surface. Eight Frit larvæ in wheat were buried with the plants 4 inches deep, and above these were placed four wheat plants and four oat seedlings, all free from frit larvæ. None of these plants were attacked, but all grew well, and no adults ever emerged. In the 'Annals of Applied Biology' for October 1918, however, Mr J. E. Collin quotes experiments of Krassiltchik and Vitkovsky, proving that the adult flies were capable of getting through 7 to 9 inches "of rammed wet earth upon emergence from puparia buried at that depth."

In some parts of the country the practice is growing of sowing oats in autumn, because the Frit Fly attacks on spring-sown oats are so bad. The sowing of oats in autumn—apart from Frit Fly—is in the experimental stage. My friend and colleague, Professor Watson, informs me that such experiments promise hopefully, but it is too early to be dogmatic. The experimental results are awaited with interest by Entomologists, for aside from Frit Fly, the successful sowing of oats is related to a possible culture mode of fighting the Wheat-Bulb Fly (oat is immune to Wheat-Bulb Fly), concerning which I hope to give a full account in my next Report.

# MILK RECORDS.

**TWENTIETH YEAR—RECORDS OF 27,275 COWS.**

By **WILLIAM STEVENSON, B.Sc., N.D.A., N.D.D.**, Superintendent,  
The Scottish Milk Records Association.

**SYSTEMATIC** milk recording in Scotland was continued in 1922 on the same lines as in 1921 and previous years. The work was carried on under the direction of the Scottish Milk Records Association as formerly.

The Association in 1922 consisted of the following members:—

Name and Address.	Body Represented.
Mr Colin Thomson, Brae of Auchendrane, Ayr	Central and South Ayrshire Milk Record Society (Ayr and Coynton Circuit).
Mr William D. Wardrop, Rigg, Auchinleck .	Central and South Ayrshire Milk Record Society (Cumnock and Auchinleck Circuit).
Lieut.-Col. W. T. R. Houldsworth, Kirkbride, Maybole	Central and South Ayrshire Milk Record Society (Girvan and Maybole Circuit).
Mr Thos. Barr, Hobsland, Monkton . . .	Central and South Ayrshire Milk Record Society (Kilmarnock, Craigie, and Monkton Circuit).
Mr John Young, Skerrington Mains, Hurlford	Central and South Ayrshire Milk Record Society (Kilmarnock, Galston, and Newmilns Circuit).
Mr William Wallace, Auchenbrain, Mauchline	Central and South Ayrshire Milk Record Society (Mauchline and Hurlford Circuit).
Mr J. P. Smith, Thirdpart, Auchinleck .	Central and South Ayrshire Milk Record Society (Ochiltree Circuit).
Mr Alex. Y. Allan, Aitkenbar, Dumbarton .	Dumbartonshire Milk Record Society.
Mr Mungo Sloan, Douglasshall, Ecclefechan .	Dumfriesshire Milk Record Society (Lower Annandale Circuit).
Mr William Ferguson, Catlins, Lockerbie .	Dumfriesshire Milk Record Society (Upper Annandale Circuit).

Name and Address.	Body Represented.
Mr Robt. Millar, Shawsholm, Closeburn .	Dumfriesshire Milk Record Society (Lower Nithsdale Circuit).
Mr Arch. Kirkpatrick, Barr, Sanquhar .	Dumfriesshire Milk Record Society (Upper Nithsdale Circuit).
Mr George Young, Bramcumhall, East Kilbride	East Kilbride and District Milk Record Society.
Mr James Mitchell, Wamphray, North Berwick	East Lothian Milk Record Society.
Mr Robt. M. Reid, The Glen Farm, Falkirk	East Stirlingshire Milk Record Society.
Mr William Murdoch, Buntonhill, Kilmaurs	Fenwick (High) Milk Record Society.
Mr William M'Adam, Athronhall, Milnathort	Fife Milk Record Society, Circuit No. 1.
Mr James W. Miller, Lochhead, West Wemyss	Fife Milk Record Society, Circuit No. 2.
Mr Alexander Munro, of Leanach, Culloden Moor, Inverness	Highland Milk Record Society.
Mr John Finnie, Camphill, Dalry . . .	"John Speir" Milk Record Society.
Mr Gavin Hamilton, British Linen Bank, Lesmahagow	Lesmahagow Milk Record Society.
Mr James W. Edgar, Dourie, Port William .	Lower Wigtownshire Milk Record Society, Circuit No. 1.
Mr James Barr, Low Glasnick, Kirkcowan .	Lower Wigtownshire Milk Record Society, Circuit No. 2.
Mr Robert Laird, Lawthorn, Irvine . . .	Montgomerie Milk Record Society.
Mr John A. Carlyle, B.Sc., 2 Addison Place, Arbroath	North of Scotland Milk Record Society.
Mr Robert M'Alister, Mid Ascog, Rothesay	Renfrew and Bute Milk Record Society (Bute and Inverkip Circuit).
Mr John Telfer, Branchal, Bridge of Weir .	Renfrew and Bute Milk Record Society (Kilmacoll and District Circuit).
Mr George Buchanan, Hunterhill, Paisley .	Renfrew and Bute Milk Record Society (Paisley and District Circuit).
Mr William Howie, Carnwadric, Thornliebank	Renfrew and Bute Milk Record Society (Upper Ward Circuit).
Mr Andrew Cochran, High Ardwell, Kirkcolum, Stranraer	Rhins of Galloway Milk Record Society (Kirkcolum and District Circuit).
Mr T. R. Evans, Alton, Drummore, Stranraer	Rhins of Galloway Milk Record Society (Kirkmaiden and District Circuit).

Name and Address	Body Represented.
Mr John Forster, Mains of Larg, New Luce	Rhins of Galloway Milk Record Society (Luce Valley Circuit).
Mr James A. Gilmour, South Cairn, Ervie, Stranraer	Rhins of Galloway Milk Record Society (Stranraer and District Circuit).
Mr A. G. Shirra Gibb, Wyndhead, Lauder	Roxburgh and District Milk Record Society.
Brig.-Gen. J. A. Houison-Craufurd, Dunlop House, Dunlop	Stewarton and Dunlop Milk Record Society.
Major C. R. Dudgeon, Cargen Holm, Dumfries	Stewartry of Kirkcudbright Milk Record Society, Circuit No. 1.
Mr H. W. B. Crawford, Forneth, Castle-Douglas	Stewartry of Kirkcudbright Milk Record Society, Circuit No. 2.
Mr H. G. Baird, Kirkchrist, Kirkcudbright	Stewartry of Kirkcudbright Milk Record Society, Circuit No. 3.
Mr William P. Gilmour, Balmangan, Borgue	Stewartry of Kirkcudbright Milk Record Society, Circuit No. 4.
Mr John Crooks, Little Ochiltree, Uphall	West Lothian Milk Record Society.
Sir Thomas Clement, K.B.E., of Netherton, 64 Albion Street, Glasgow	The Ayrshire Cattle Herd - Book Society of Great Britain and Ireland.
Mr James Howie, Hillhouse, Kilmarnock	
Mr Thomas C. Lindsay, Aitkenbrae, Monkton	
Mr A. W. Montgomerie, Lessnessock, Ochiltree	The British Friesian Cattle Society.
Mr Matthew Bowie, Balmuildy, Maryhill, Glasgow	
Mr Alexander Munro, of Leanach, Culloden Moor, Inverness	
Mr T. J. Anderson, Cairnfield, Lerwick	The Shetland Cattle Herd-Book Society.
Mr R. W. R. Mackenzie, of Earlsall, Leuchars, Fife	
Mr John M'Caig, Belmont, Stranraer	
Mr Robert Park, Brunstane, Portobello	The Highland and Agricultural Society of Scotland.
Sir Hugh Shaw Stewart, Bart., C.B., of Ardgowan, Inverkip	
Mr Charles M. Douglas, C.B., D.Sc., of Auchlochan, Lesmahagow	
Mr T. C. Lindsay, Aitkenbrae, Monkton	The West of Scotland Agricultural College.
Principal W. G. R. Paterson, 6 Blythswood Square, Glasgow	
Mr Harry Armour, Niddry Mains, Winchburgh	
Mr Alexander Lauder, D.Sc., 13 George Square, Edinburgh	The Edinburgh and East of Scotland College of Agriculture.
Mr William Smith, B.Sc., 13 George Square, Edinburgh	

Name and Address.	Body Represented.
Mr G. G. Esslemont, M.B.E., B.Sc., 41½ Union Street, Aberdeen	The North of Scotland College of Agri- culture.
Professor Hendrick, Marischal College, Aberdeen	
Mr J. F. Tocher, D.Sc., 41½ Union Street, Aberdeen	
Mr Andrew Clement, Netherton, Newton Mearns	Co-opted Members.
Mr Robert Dickie, of Messrs J. & W. Wallace, 498 Gallowgate, Glasgow	
Mr John Drysdale, 5 St Andrew Square, Edinburgh	
Mr James Dunlop, Board of Agriculture for Scotland, Edinburgh	
Mr George Hobson, 4 Southampton Row, London, W.C. 1	

*Chairman*—Mr Robert Dickie.

The following were the principal members of the staff :—

*Secretary and Treasurer*—Mr John Howie.

*Superintendent*—Mr William Stevenson, B.Sc., N.D.A., N.D.D.

*Assistant Superintendent*—Mr Percy H. Hart.

#### ADMINISTRATION.

In 1922, as in previous years, the Association's milk recording was administered through local Milk Recording Societies. The grant for milk recording from the Development Fund, obtained through the Board of Agriculture for Scotland, was continued in 1922 on the same conditions as in the previous year. The total grant for 1922 amounted to £3500.

The Ayrshire Cattle Herd-Book Society continued their grant of £50 to the Association.

Grants were allocated to local societies on the following scale :—

1. Societies testing at intervals of not more than twenty-one days :—

- (a) The hire of the necessary milk-testing appliances free of annual charge, the society to upkeep the apparatus in good condition.
- (b) An annual grant of 50s. to each new member in his first or second year, and of 15s. to each member in his third or fourth year.
- (c) An annual grant of 14s. per member towards the cost of surprise check tests.

2. Societies testing at intervals of from twenty-two to twenty-eight days :—

- (a) The hire of the necessary milk-testing appliances free of annual charge, the society to upkeep the apparatus in good condition.
- (b) An annual grant of 30s. to each new member in his first or second year, and of 15s. to each member in his third or fourth year.
- (c) An annual grant of 12s. 6d. per member towards the cost of surprise check tests.

During the latter part of 1921 every effort was made to obtain additional applications for membership of local societies in 1922, and 152 applications were obtained throughout the various dairying districts of Scotland. This was the largest number of new applications obtained in any one year, and in view of the abnormal slump in market prices and the poor demand for milk at the end of 1921, this result was considered most encouraging. It should be noted also that a large proportion of the new members were in new districts in the East and North-East of Scotland—namely, in the counties of Ross, Inverness, Aberdeen, Forfar, Perth, Linlithgow, Haddington, Peebles, and Roxburgh. On the other hand, owing probably to the conditions already referred to, there were more than the usual number of resignations. For various reasons, such as members disposing of their dairy herds, abortion in herds, &c., 98 members intimated their resignations. Also, a number of the new applicants could not be accommodated in existing or new local societies, owing to their being isolated in more or less non-dairying districts.

The 44 local societies or circuits which operated in 1921 all desired to continue in 1922. But the reduction in the number of check tests per herd to be made in 1922, as compared with 1921, permitted of a considerable increase in membership on each recorder's circuit, and necessitated an extensive rearrangement of members of each society or circuit with a corresponding reduction in the number of circuits. This rearrangement was successfully carried out; and the whole of the members continuing recording in 1922, and all the new applicants that could possibly be accommodated were included in 40 societies or circuits, the following two of which were new societies in 1922—namely, (1) Roxburgh and District Society, and (2) West Lothian Society.

Further progress was made in the amalgamation of separate local societies into larger county or district societies. In addition to the five districts which effected amalgamations in 1920, the following amalgamations were carried out in 1921:—

- (1) Central and South Ayrshire Milk Recording Society, employing 7 recorders in 1922.
- (2) Perthshire—10 members in Perthshire joined with the Fifeshire Society, employing 2 recorders in 1922.

The total number of milk record societies or circuits affiliated with the Association in 1922 was 40, and 40 trained recorders were constantly employed during the greater part of the year. The total number of herds tested in 1922 was 691, compared with 670 in 1921. The total number of cows tested in 1922 was 27,275, compared with 26,766 in the previous year, the largest number in the history of the Association.

The following is a list of the Milk Record Societies which operated in 1922, with the name and address of the secretary of each society :—

Name of the Society.	Secretary.
Central and South Ayrshire (7 Circuits)	Mr E. A. Bell, M.A., B.Sc., 239 High Street, Ayr.
Dumbartonshire . . .	Mr John Bilsland, Quay Place, Dumbarton.
Dumfriesshire (4 Circuits)	Mr Thomas Henderson, Solicitor, Lockerbie.
East Kilbride and District	Mr Arthur Gilmour, 11-13 Macfarlane Street, Glasgow.
East Lothian . . . . .	Mr James L. Nisbet, Easter Newton, Kirknewton.
East Stirlingshire . . .	Mr Robert M. Reid, The Glen Farm, Falkirk.
Fenwick (High). . . .	Mr James Mather, Low Gainford, Fenwick.
Fife (2 Circuits) . . .	Mr William Macniven, Royal Bank, Kirkcaldy.
Highland . . . . .	Mr J. M. Hunter, Queensgate, Inverness.
"John Speir" . . . .	Mr William Longwill, Hawhill, Dalry.
Leemahagow . . . . .	Mr Gavin Hamilton, British Linen Bank, Leemahagow.
Lower Wigtownshire (2 Circuits)	Mr David Breckenridge, Solicitor, Newton-Stewart.
Montgomerie . . . . .	Mr Robert Laird, Lawthorn, Irvine.
North of Scotland . . .	Mr John A. Carlyle, B.Sc., 2 Addison Place, Arbroath.
Renfrew and Bute (4 Circuits)	Mr W. G. MacDougall, Solicitor, Paisley.
Rhins of Galloway (4 Circuits)	Mr John Gibson, Solicitor, Stranraer.
Roxburgh and District .	Colonel A. Hadden, Solicitor, 7 Tower Knowe, Hawick.
Stewarton and Dunlop .	Mr James Clark, Fingart, Dunlop.
Stewartry of Kirkcudbright (4 Circuits)	Mr Patrick Gifford, Solicitor, Castle-Douglas.
West Lothian . . . . .	Mr John Crooks, Little Ochiltree, Uphall.

#### SEASON 1922.

The table on this and the following page shows for each society the number of members, the number of cows tested, the average interval between the tests, and the duration of the recording season :—



Name of the Society or Circuit.	No. of Members.	No. of Cows Tested.	Average interval between Tests, in Days.	Duration of Recording Season, in weeks.
Central and South Ayrshire—				
1. Ayr and Coynton . . . . .	18	689	21	52
2. Cumnock and Auchinleck . . . . .	17	518	21	52
3. Girvan and Maybole . . . . .	16	711	21	52
4. Kilmarnock, Craigie, & Monkton . . . . .	18	641	21	52
5. Kilmarnock, Galston, & Newmilns . . . . .	18	670	21	52
6. Mauchline and Hurlford . . . . .	16	606	21	52
7. Ochiltree . . . . .	17	565	21	52
8. Dumbartonshire . . . . .	16	550	21	52
Dumfriesshire—				
9. Lower Annandale . . . . .	19	825	26	52
10. Upper Annandale . . . . .	21	875	26	52
11. Lower Nithsdale . . . . .	20	835	26	52
12. Upper Nithsdale . . . . .	19	903	26	52
13. East Kilbride and District . . . . .	12	468	21	52
14. East Lothian . . . . .	14	240	18	52
15. East Stirlingshire . . . . .	15	351	20	52
16. Fenwick (High) . . . . .	20	685	26	52
Fife—				
17. Circuit No. 1 . . . . .	18	538	24	52
18. Circuit No. 2 . . . . .	22	535	26	52
19. Highland . . . . .	22	433	26	52
20. "John Speir" . . . . .	18	476	22	52
21. Lesmahagow . . . . .	19	574	28	52
Lower Wigtownshire—				
22. Circuit No. 1 . . . . .	17	958	28	48
23. Circuit No. 2 . . . . .	18	949	28	48
24. Montgomerie . . . . .	19	541	28	52
25. North of Scotland . . . . .	13	306	28	52
Renfrew and Bute—				
26. Bute and Inverkip . . . . .	16	432	21	52
27. Kilmacoll and District . . . . .	15	361	21	52
28. Paisley and District . . . . .	12	315	16	52
29. Upper Ward of Renfrewshire . . . . .	21	719	28	52
Rhins of Galloway—				
30. Kirkcolum and District . . . . .	16	1092	24	52
31. Kirkmaiden and District . . . . .	12	1052	24	52
32. Luce Valley . . . . .	18	1158	24	52
33. Stranraer and District . . . . .	17	1146	24	52
34. Roxburgh and District . . . . .	13	334	21	52
35. Stewarton and Dunlop . . . . .	16	457	21	52
Stewartry of Kirkcudbright—				
36. Circuit No. 1 . . . . .	21	1088	28	52
37. Circuit No. 2 . . . . .	19	1055	28	52
38. Circuit No. 3 . . . . .	20	1234	28	52
39. Circuit No. 4 . . . . .	19	1045	28	52
40. West Lothian . . . . .	14	345	21	52
Total No. . . . .	691	27,275	...	...

## DEFINITIONS.

The milk records compiled by the Association are records of the estimated quantity of milk produced by each cow in a separate lactation, and of the estimated percentage of milk fat contained in the milk. For convenience a gallon of milk was reckoned as 10 lb. A gallon of milk of average quality weighs almost exactly  $10\frac{1}{2}$  lb. The following further particulars concerning each record were also given, wherever possible :—

Name of cow, byre number, and herd-book number.

Sire of cow, and herd-book number of sire.

Dam of cow, and herd-book number of dam.

Date of birth.

Date of calving preceding opening of record.

Number of weeks in milk.

Date of next calving after record closed.

The following particulars of the preceding record were appended to each record, where available :—

Date of calving preceding opening of record.

Quantity of milk in gallons.

Percentage of fat in milk.

Number of weeks in milk.

The milk yields were estimated in respect of quantity and milk fat percentage from the results of systematic periodic tests by trained recorders approved by the Association. The recorders visited the farms for this purpose at intervals varying from fourteen to not more than twenty-eight days, and each day of visit was regarded as the middle day of the period covered by the visit. Milk records estimated in this way approximate closely to the actual milk yields.

## METHOD OF RECORDING ADOPTED.

A distinctive feature of milk recording in Scotland in 1922, as in former years, was that the records were entirely the work of trained official recorders. Recorders had previously to undergo a special course of training in milk recording at the West of Scotland Agricultural College Dairy School, or other approved College of Agriculture. Only candidates of good character and good general education were selected to attend these courses ; and all recorders, before appointment, were approved by the Executive Committee of the Association. The Executive Committee fully realise how much depends upon the individuality of the official recorder.

All dairy farmers taking advantage of the Association's scheme were arranged into local Milk Recording Societies employing one or more recorders, the Executive Committee having the power to transfer members from one local society to another, in order to find accommodation for new applicants, and at the same time avoid overlapping of recorders' circuits. Each local society applying to the Association for licence to conduct milk recording under the Association's scheme signed the form containing the Association's rules and regulations, and agreed to conform to these rules. The local society selected and appointed their recorder or recorders from the list of approved recorders obtained from the Association. Apparatus, chemicals, sheets, and books were selected and arranged for by the Association, all byre sheets and record books used by the recorders being supplied free of charge. Thus, uniformity of method was as far as possible assured.

The official recorder visited each herd at irregular intervals of not more than twenty-eight days, or more usually from eighteen to twenty-three days. He, or she, arrived at the farm in the afternoon, usually by means of a small pony and trap provided by the local society for the purpose, and was accommodated at the farm overnight. All cows giving milk in each herd, as far as was possible, were included in the records. Each cow was clearly distinguished in the byre by a stall number on the wall, immediately in front of, and above the level of, the cow, and registered animals were also indelibly tattooed on the ears with distinctive registered tattoo markings. The cows were milked in the same rotation, evening and morning, on the occasion of the recorder's visit. The recorder weighed and sampled the milk of each cow in the evening, noting the time at which each cow was milked, and entered the results in the corresponding columns in the byre sheet, taking up a position in the byre as near to the milkers as possible, so as to have them in full view, and as far as practicable receiving the milk direct from the milker at the cow's side. He again weighed and sampled the milk of each cow in a similar manner in the morning, and entered the results in the byre sheets. He then tested the mixed evening and morning sample for each cow by the Gerber method for percentage of milk fat. He entered in the byre sheet any unusual conditions likely to affect the milk yields. The recorder was required to see that all milk samples and byre sheets were securely locked up overnight or during his absence. From the daily results the recorder calculated and completed the byre sheets, multiplying the yields by the exact number of days which had elapsed since the last test, but so calculating throughout that each day of visit was regarded as the middle day of the period covered by the test.

Special ready reckoners were used to facilitate calculating and to ensure greater accuracy.

The byre sheets were written out in duplicate. The principal copies were posted at regular intervals to the offices of the Association, and the carbon copies left with the respective members. The recorder transferred the results from the extended byre sheet to the milk record book for the herd indelibly in ink, each cow being assigned a separate page, at the top of which full particulars of the cow were entered, including the indelible tattoo marks on the animal.

All byre sheets were carefully revised and corrected in the Association's offices during the season, and a list of the necessary corrections sent to each recorder periodically to be entered in the record books.

Visits of inspection were made to each recorder and to the members of local societies at the different farms periodically throughout the year by members of the Association's staff, and reports thereon submitted to the Executive Committee. The Executive Committee reserved the right to withdraw approval of any recorder at any time or to limit the period of service of any recorder with any particular society. Members of local societies refusing to observe any of the rules of the Association, or deemed to be guilty of conduct injurious to the true interests of milk recording, were liable to be temporarily or permanently suspended.

Another distinctive feature was the surprise check tests, the records of each herd being checked in this way about two or three times throughout the year. The recorder was instructed, by a letter from the superintendent on a date unknown to recorder and owner of herd, to remain at the same farm another day and make another complete twenty-four hours' test. The surprise test results were entered on special buff-coloured byre sheets, and in the record books in red ink immediately below the results of the regular test of the previous day. The buff byre sheets were posted to the Association's offices with the other sheets, and any abnormal differences were immediately noted and reported to the Executive Committee.

As a result of this system of surprise check tests, each page of the 1922 milk record books contains about two or three lines of entries in red, comparison of which with the immediately preceding entries provides valuable evidence as to the genuineness of the milk records.

In addition to the surprise check tests made by the recorder, a number of independent surprise tests were made by the Association's staff, in order to check the recorder's work.

All records were closed at the end of December, the current lactations being carried forward to the new books of the following year. Finally, summary sheets were written out in

duplicate showing the total milk yields for each cow for the lactation or part lactation, with full particulars of the cow, dates of calving, &c. The principal copy of the summary sheet was posted to the Association's offices with the record book, and the second copy left with the owner of the herd.

All record books and summary sheets were carefully revised, corrected in detail, and initialled in the Association's offices during the next few months, the record books being returned later to the respective members, and the summary sheets retained and bound for future reference.

The milk records were next classified into three groups for cows and heifers respectively, on the following basis. Experience has confirmed the view that a very useful comparison is obtained by reckoning the yields at their estimated equivalent of milk of 1 per cent fat. Such a comparison takes into consideration both the quantity and the quality of the milk.

Cows with a milk record equivalent to not less than 2500 gallons at 1 per cent fat, and heifers with a milk record equivalent to not less than 2000 gallons at 1 per cent fat were grouped into Class I. Cows and heifers with milk records of less than two-thirds of these amounts—viz., 1660 and 1330 gallons respectively—were grouped into Class III.

The following short table shows the corresponding values of these yields in fairly good milk of 3·5 per cent milk fat:—

Class.	Yield in Milk of 1 per cent Fat. (Gallons.)	Corresponding Yield in Milk of 3·5 per cent Fat. (Gallons.)
Cows in Class I . .	Not less than 2500 .	714
Heifers in Class I. .	Not less than 2000 .	571
Cows in Class III. .	Less than 1660 . .	474
Heifers in Class III. .	Less than 1330 . .	380

All cows and heifers falling between these limits would come into Class II. Such animals naturally claim less attention than the good milkers or the obviously unprofitable animals. It should be noted, however, that Class II. would include a certain number of unclassifiable yields, as there were a number of instances where, from various causes, the results of a whole normal lactation could not be obtained.

The Association will shortly publish an Annual Report giving all details of the work of the Association, and of each local Milk Recording Society during 1922. This report will include tables showing for each farm the number of cows and heifers tested and the number and percentage included in Classes I. and III. respectively. Each herd is included under

the respective local society, but is represented only by an alphabetical letter, the owner being advised privately of the identity in the report of his own herd or herds. From these tables any member may see at a glance how his herd compares with other herds in the same or any other district, and the improvement in his own herd compared with previous years. The report will also show in tabular form the percentage of Class I. and Class III. animals of all animals tested under the Association's scheme during the year, and will thus afford a valuable indication of the progress in milk production generally.

An important feature of the Association's Annual Reports from 1917 inclusive is the register of good milking cows with the names and addresses of owners and full particulars of the milk records. This register includes only milk records eligible for Class I., and is further restricted to animals which completed their lactation before the end of the year and gave birth to another calf before 1st May of the year following. The fullest available particulars of each record are given, and all lists of records are submitted to the owners of the respective animals for revision before publication. The register is of great value to all interested in increased milk production and in the breeding and rearing of animals of the best milking strains, and is invaluable for reference.

It should always be kept in mind when making a comparison of cows in different herds or in different districts, that the different methods of dairying practised have a considerable influence on the milk yields, and that therefore milk yields alone do not necessarily indicate the true relative inherent or hereditary milking qualities of the animal. But the authenticated milk records compiled by the Association are of inestimable value to breeders and owners of dairy cows if properly interpreted.

#### GENERAL REVIEW.

Recording was carried on in 1922 by 40 local societies or circuits, comprising 691 members, compared with 670 members in the previous year, an increase of 21 members. The number of cows tested in 1922 was 27,275, compared with 26,752 in 1921, an increase of 523 cows, and the largest number in the history of the Association.

During the year 24 recorders, for various reasons, terminated their engagements. The Executive Committee, however, in the same period approved of 21 applicants for the position of milk recorder, and were able to recommend a sufficient number of qualified recorders. Nineteen women recorders were employed in 1922, and 30 men recorders.

In this connection the Committee, as formerly, were indebted to the West of Scotland Agricultural College for giving special courses of instruction for milk recorders to meet the Association's requirements. Only one special course was necessary in 1922—namely, in December. Twenty selected candidates attended this course, and all obtained the certificate.

The Executive Committee were able to purchase sufficient supplies of milk-testing apparatus, sulphuric acid, and amyl alcohol for local societies at considerably reduced prices compared with the previous year.

The new system of surprise check tests, introduced in 1920, was continued in 1922; but, owing to the need for economy in expenditure from public funds, the number of check tests was reduced from an average of about 4 per herd in 1920 and 1921 to an average of about 2 per herd. The total number of check tests made by recorders during the season was 1264, or an average of fully 1·8 check tests per herd. In no instance in 1922 was the average milk yield for the herd more than 3 lb. milk daily less on the occasion of a check test, as compared with the previous day. Only 4 herds showed an average of over 2½ lb. less, and only 7 herds an average of over 2 lb. less, including the 4 herds already referred to. In addition to the surprise check tests arranged for and carried out by the recorders, the Assistant Superintendent made 51 special check tests of different herds. The results, in most instances, compared very satisfactorily in regard both to average yields and fat percentages. Only one herd showed an average daily yield of as much as 2½ lb. less on the occasion of a special check test, 9 herds an average of from 1 to 2 lb. less, and 2 herds an average of 1 to 2 lb. more. With regard to average fat percentages, the greatest difference found in either direction was ·37 per cent. Only 3 herds showed an average fat percentage of over ·3 per cent lower, and 3 herds an average of over ·3 per cent higher.

The conditions for milk production in 1922 were, on the whole, more favourable than in recent years. The year will be memorable on account of the abnormal lack of sunshine, and the persistently low temperature that prevailed during the summer and autumn months. Growth was slow at first, but a spell of moderately warm weather in May and the early part of June helped considerably, and the rainfall was well distributed throughout the season. The supply of grass was good throughout the summer and far into the winter, and the root crops were generally very satisfactory. It may be assumed, therefore, that the milk yield per herd in Scotland in 1922 was rather above average.

But in the case of recorded herds, two conditions in 1922 militated against a higher average milk yield than in recent

years. A considerable number of herds which had been recorded for a period of years were entirely dispersed, while an unusually large number of new herds, or herds tested for the first time in 1922, 1921, or 1920 were included. The proportion of regular milk record herds was thereby correspondingly reduced. It was shown in the review of 1920 that herds tested for the first season, or for only a few years, gave a smaller average milk yield than regular milk record herds tested continuously for five years or over, the comparative figures for proportion of cows in Class I. being 34 per cent, 44 per cent, and 62 per cent respectively. The 691 herds tested in 1922 included 79 herds in their third year, 68 herds in their second year, and 110 herds in their first year.

It was to be anticipated, therefore, that in the herds tested regularly over a number of years the percentage of Class I. records in 1922 would be found to be higher than in previous years, though, on the other hand, the inclusion of such a large proportion of herds not previously tested, or regularly tested, would result in a lower average standard than would have been attained had so many new herds not been included.

The following table shows for each society the number and percentage of cows and heifers of each class in 1922, with a comparison of the average results from 1914 to 1922 inclusive :—

Society.	Cows and Heifers.				
	Number.			Per Cent.	
	Total.	Class I.	Class III.	Class I.	Class III.
Central and South Ayrshire—					
1. Ayr and Coylton . . . . .	689	472	6	70*	1*
2. Cumnock and Auchinleck . . . . .	518	390	7	75	1
3. Girvan and Maybole . . . . .	711	487	6	73*	1*
4. Kilmarnock, Craigie, and Monkton . . . . .	641	466	14	73	2
5. Kilmarnock, Galston, and Newmilns . . . . .	670	435	6	68*	1*
6. Mauchline and Hurlford . . . . .	606	426	11	70	2
7. Ochiltree . . . . .	565	439	1	78	...
8. Dumbartonshire . . . . .	550	381	11	70*	2*
Dumfriesshire—					
9. Lower Annandale . . . . .	825	536	19	65	2
10. Upper Annandale . . . . .	875	605	27	72*	3*
11. Lower Nithsdale . . . . .	835	420	64	51*	8*
12. Upper Nithsdale . . . . .	903	541	35	60	4
13. East Kilbride and District . . . . .	468	277	12	59	3
14. East Lothian . . . . .	240	176	2	73	1



Society.	Cows and Heifers.				
	Number.			Per Cent.	
	Total.	Class I.	Class III.	Class I.	Class III.
15. East Stirlingshire . . .	351	208	6	59	2
16. Fenwick (High) . . .	685	511	3	75	...
Fife—					
17. Circuit No. 1 . . .	538	359	9	68*	2*
18. Circuit No. 2 . . .	535	289	6	59*	1*
19. Highland . . .	433	202	2	54*	1½*
20. "John Speir" . . .	476	277	10	58	2
21. Lesmahagow . . .	574	442	4	77	1
Lower Wigtownshire—					
22. Circuit No. 1 . . .	958	417	71	44	7
23. Circuit No. 2 . . .	949	395	25	42	3
24. Montgomerie . . .	541	338	11	65*	2*
25. North of Scotland . . .	306	234	3	77*	1*
Renfrew and Bute—					
26. Bute and Inverkip . . .	432	375	2	87	...
27. Kilmacoll and District . . .	361	220	9	61	2
28. Paisley and District . . .	315	182	5	62*	2*
29. Upper Ward of Renfrewshire	719	390	11	55*	2*
Rhins of Galloway—					
30. Kirkcolum and District . . .	1092	547	29	53*	3*
31. Kirkmaiden and District . . .	1052	753	2	72	...
32. Luce Valley . . .	1158	678	31	59	3
33. Stranraer and District . . .	1146	723	43	63	4
34. Roxburgh and District . . .	334	150	5	45*	1½*
35. Stewarton and Dunlop . . .	457	331	2	77*	...
Stewarton of Kirkcudbright—					
36. Circuit No. 1 . . .	1088	675	23	62*	2*
37. Circuit No. 2 . . .	1055	667	22	63	2
38. Circuit No. 3 . . .	1234	687	25	56	2
39. Circuit No. 4 . . .	1045	738	...	71	...
40. West Lothian . . .	345	99	15	33*	5*
Of all the cows and heifers } tested in 1922	27,275	16,938	595	63*	2*
Comparison with 1921 . . .	26,752		.	58½	4
Comparison with 1920 . . .	24,191			55½	3½
Comparison with 1919 . . .	20,786			49½	4½
Comparison with 1918 . . .	17,827			49	5½
Comparison with 1917 . . .	19,564			50	4½
Comparison with 1916 . . .	22,702			53½	4½
Comparison with 1915 . . .	26,572			46	6
Comparison with 1914 . . .	26,424			39½	9

Excluding herds tested during only a part of the recording season—  
474 cows in all.

Reviewing the results of the 40 circuits as a whole, we find that of the total of 27,275 cows and heifers tested in 1922, 16,938 were included in Class I., and only 595 in Class III. Excluding 474 animals in herds tested during only a part of the season, and therefore not classified, this is equivalent to 63 per cent in Class I. and 2 per cent in Class III. Thus, 63 per cent of all the cows and heifers tested gave a milk yield equivalent to not less than 714 gallons containing 3·5 per cent milk fat in the case of a cow, and 571 gallons in the case of a heifer; while only 2 per cent gave a milk yield equivalent to less than 474 gallons containing 3·5 per cent milk fat in the case of a cow and 380 gallons in the case of a heifer.

In 1921, 58½ per cent were eligible for Class I. and 4 per cent were included in Class III., so that the records of 1922, compared with the records of the previous year, show the substantial improvement of 4½ per cent of all animals tested in Class I., and an improvement—namely, a decrease—of 2 per cent in Class III.

As already indicated, the average standard attained in 1922 was undoubtedly lowered by the inclusion of an unusually large proportion of new herds, yet it will be observed from the preceding table that the proportion of animals qualifying for inclusion in Class I. in 1922 is the largest in the history of milk recording in Scotland—namely, 4½ per cent higher than in 1921, the previous best year in this respect. It is significant also that the percentage included in Class III.—the obviously unprofitable class—is the lowest on record.

Thus further evidence has been obtained of a definite improvement from year to year in the inherent or hereditary milking qualities of the herds tested under the scheme of the Association. It will be observed that the proportion of Class I. cows and heifers has been increased from 39½ per cent in 1914 to 63 per cent in 1922, while the proportion of obviously unprofitable animals has been reduced in the same from 9 per cent to 2 per cent.

Valuable evidence in this connection from an independent source is provided in the Report of the Scottish Inter-Departmental Committee on Milk, issued in 1922. The following are extracts from par. 63, page 45 :—

“ We received many expressions of approval of milk recording from agriculturists who have experienced its advantages, and who are anxious that these advantages should be extended throughout Scotland. Mr Crawford, lately chairman of the Scottish Milk Records Association, stated that a scheme for testing the milk of small producers would be one of the biggest steps forward in his lifetime. The late Mr Ferguson and Mr Gilmour strongly approved of it. Dr Drysdale gave

us his experience that milk records lead to an increase both in quantity and quality. Major Dudgeon informed us that nine years ago his average was about 500 gallons of milk per cow per year. He now obtains over 800 gallons per cow per year, and he attributes this substantial increase to the system of milk recording. He has quite a number of cows twelve and thirteen years old. Mr Dykes stated that there should be an extension of milk recording, especially in the case of small farmers, because where the milk recorder has been operating it has been to the advantage of the Scottish Co-operative Wholesale Society as well as of the farmer.

"The system of milk recording has spread fairly rapidly in all countries, and we are satisfied that its advantages are out of all proportion to the small expense involved.

"Milk records provide information showing the value of the individual cow, in particular with regard to (a) the actual weight of milk produced by each cow, and (b) the butter-fat content of that milk. We consider it of the utmost importance to the public and to the dairying industry of Scotland that the system of milk recording should be extended. The phenomenal increase in the supply of milk from Major Dudgeon's herd is only an index of what may be obtained throughout the country. Many cows give an annual yield of milk which is small compared with what a good dairy cow should give, and it is almost impossible for a producer to decide whether a cow is giving a sufficient margin of profit in the year unless regular and complete tests are applied. As the cost of feeding and attention bulks largely in the total cost of production, an increase in the yield of the individual cow appears to us to be the surest method by which the producer can secure a margin of profit. It is possible, indeed, that the more expensive portion of the food of poor milkers might be cut down without loss to the yield. We have already stated that we regard an increase in the consumption of milk as highly desirable. Milk records will undoubtedly tend to increase the supply. We point out also that by reducing the cost of production per gallon of milk, the system of recording may be expected to reduce the cost of milk to the consumer.

"At the same time, milk records provide for the matter which more nearly concerns the subject of our inquiries. They provide the milk producer with information in regard to the quality of butter-fat in the milk produced by his herd or by the individual cows, and though they do not provide for the analysis of solids other than fat, there is much less variation in these solids than in butter-fat. Those who at present maintain milk recording societies are chiefly the larger dairy farmers, though the owners of small herds are to be found among them. It is the small producer, how-

ever, on whose behalf most consideration on the part of the administration is claimed, and in every respect it is to the benefit of the small producer that he should be able to take advantage of the information provided by such a society. The elimination of cows which produce a small quantity or a continued low quality of milk is a matter of greater importance to the man in a small business than to the owner of a large herd, though to the latter also it is essential."

Improvement from milk recording is obtained mainly in three directions: (1) by selecting and breeding according to actual milk yields; (2) by more effective feeding according to milk yields; (3) by increasing the interest in and improving the general management of the herd. The first is the more important in this connection, though certain critics are fond of reiterating that the phenomenal yields of many milk record cows are due to intensive feeding rather than to superior inherent milking qualities. Such assertions ignore the fact that it is no more possible to transform nature's Class III. cow into a Class I. cow by feeding than it is to change a C3 into an A1 population by change of diet. It has been amply proved, both by experiment and experience, that unless a cow is furnished by nature with adequate machinery for making milk, high feeding will merely make her fat or make her ill. No method of feeding can force the naturally poor milker to produce a large yield. Those who disbelieve this should test their theory on a cow of a beef breed.

They not only attempt to explain away a difference of from 600 gallons to 1200 gallons, namely, 600 gallons, from one cow by intensive feeding, but at the same time maintain that the result is not profitable, ignoring the very evident fact that the value of the additional 600 gallons of milk in additional concentrated foods could not all be consumed by one cow.

The following are extracts from a paper by Dr E. J. Russell in the 'Journal' of the British Dairy Farmers' Association, 1908, page 44, in which he refers to various extensive feeding experiments carried out in Germany, America, and England:—

"The cow affords a good illustration of the universal law that the race must be preserved whatever the individual suffers. The natural object of the milk is to feed the calf, and the cow will continue to give milk even if she is starving and losing weight. When more food is supplied the animal does better herself, and also gives more milk. . . . There is a limit to the yield of milk beyond which the cow cannot go, no matter how much food is supplied to her. The limit depends on the activity of the milk glands and the power

of the animal to transform into milk the food which has been digested and taken up into the body; these features are born in the animal, and their full development depends on proper management. You may, and you should, breed for them, but you cannot put them into an animal that does not possess them. . . . The extra food did not increase the supply of milk, and did not even check the falling off in yield as the period of lactation advanced. The animals were already producing as much milk as they possibly could, and no amount of extra food could enable them to produce any more."

One of the important advantages from milk recording is the useful information that may be obtained as to the most successful method of feeding the cows. Many farmers seem to feed their cows too much alike, with the result that the good milkers become lean and the poor milkers become fat; and when a good milker becomes too lean, she fails to give the full yield of milk of which she is capable, and fails partially in breeding too. It is evident that many naturally good milking cows are not sufficiently well fed. In the case of a good milker the amount of suitable food given has a great influence on the daily yield, and the keeping up of the yield. The method recommended is to feed each cow individually in relation to her daily milk yield and bodily condition at the time; to fix the ration for the average daily yield of the milking herd, and to allow so much more or less for each half-gallon of milk above or below the average yield, at the rate of, say, 3·7 lb. of mixed concentrated foods per gallon of milk. The following extract from a recent issue of the 'Agricultural Gazette' is worth quoting in this connection:—

"Good cows are essential, of course, to big yields, for no feeding will make the naturally poor milker produce a large yield. On the other hand, there is many a cow that would give twice the yield she does if she were fed up to what she could give. Quite recently I came across a case where a man had a good cow, and he started feeding her with 3½ lb. of a suitable meal per gallon, and to his astonishment she gave him 2000 gallons in the 365 days. He had no idea he had such a cow."

For this purpose milk recording is essential, and the gain in this direction alone will more than repay the cost and trouble of recording. The increased yield from the good milker is of twofold advantage. It means a larger return in milk, and a better milk record to enhance the selling value of the cow and that of her progeny. The guiding principles in the management of a milk record herd may be summed up in few words: (1) select and breed according to milk

records ; (2) feed according to daily milk yield and condition of cow.

Further efforts were made in 1922 to obtain additional applications for membership of local societies in 1923, including no less than 462 personal visits to likely new members throughout the various dairying districts. This year only 72 definite applications were obtained. This number is much less than in the two previous years, and the difference is undoubtedly due to the continued severe depression in all branches of agriculture, and to the difficulty of inducing farmers to invest in new ventures under such conditions. The number of resignations was 49, including 11 members who disposed of their dairy herds. As in previous years, several of the new applicants could not be accommodated in existing or new societies owing to their being isolated in more or less non-dairying districts.

The 40 local societies or circuits of 1922 have all continued operations in 1923. The number of herds tested in 1923 will be approximately 708, and the number of cows tested approximately 28,500, compared with 691 herds and 27,275 cows in 1922.

#### FUTURE DEVELOPMENT.

In a general sense, progressive dairy farmers may be divided into two groups :—

- (1) Desiring official authenticated milk records above suspicion, in the first instance to enable them to improve the milking qualities of their herds, but with the further object of establishing the reputation and enhancing the selling value of their stock. These are willing to go to considerable expense and trouble to obtain such records.
- (2) Requiring only private records to enable them to eliminate the poor milking cows and increase the number of good milking cows with a view to the more economical production of milk. The latter prefer a milk record at the minimum of inconvenience and expense. Many of them have only small herds. Many also feel that their cows are not sufficiently good milkers to be included in a scheme of official records.

The Association consider that the requirements of both groups could probably be more fully met by a separate system of recording for the owners of unregistered herds who cannot see their way to adopt the official system, and are introducing a scheme of private or unofficial milk records

whereby the dairy farmer may become his own recorder. It is hoped to bring this new scheme into operation in Scotland in 1924, and that it will establish milk recording on a wider and more popular basis, and ultimately induce a greater number to adopt the official system.

The new scheme is a very simple one. There will be no recorder to accommodate, and no form of inspection. The scheme is to apply only to cows and heifers which are not registered by a recognised breed society, and to herds of owners who have not been members of a local milk recording society within a period of five years previous to application. The owner or his agent is to weigh the milk of each cow evening and next morning at least once every twenty-one to twenty-eight days, and to enter the results in a special byre sheet provided by the Association. The byre sheet is to be immediately posted to the Association's offices to be calculated and extended there, and returned to the owner of the herd. A special private or unofficial record book for each herd will be written out in the Association's offices. At the end of each recording season the results will be summarised, and the record books and copies of the summary sheets will be sent to the respective owners of the herds. Each member will be given the use, free of charge except for upkeep, of a special spring balance and pail, and will require to pay only a small annual subscription of 6d. per cow towards the clerical work.

It must be clearly understood that milk records compiled under this scheme will be purely unofficial unauthenticated records, and will have no connection with the official authenticated milk records of the Association.

The ideal before the Association is to have every dairy herd in Scotland included in one or other of the Association's two schemes of milk recording.

## ANALYSES FOR MEMBERS DURING 1922.

By DR J. F. TOCHER, Aberdeen, Analyst to the Society.

THE number of samples submitted for analyses during the year 1922 was 214, of which 86 were fertilisers, 29 were feeding-stuffs, 23 were waters, and 34 were milks. There were 21 examinations for poisons, 10 complete examinations of soils, the remaining 11 being miscellaneous samples. The following table shows the numbers and nature of the samples analysed during the last six years :—

TABLE I.

	1922.	1921.	1920.	1919.	1918.	1917.
Fertilisers . . .	86	90	56	44	53	58
Feeding-stuffs . . .	29	28	42	41	41	36
Waters . . .	23	22	21	25	19	12
Miscellaneous . . .	76	81	89	45	23	46
Total . . .	214	221	208	155	136	152

### FERTILISERS.

*General.*—The fertilisers examined may be classified as follows :—

TABLE II.

Compound fertilisers . . .	32
Concentrated potash fertilisers . . .	21
Superphosphates . . .	4
Slags . . .	5
Bone-meals . . .	5
Ground mineral phosphate . . .	5
Various . . .	4
Limes and limestones . . .	10

The average composition of the compound fertilisers used mainly for potatoes and turnips was as follows—4·5 per cent nitrogen, 16·1 per cent soluble phosphate, 9·9 per cent insoluble phosphate, 3·8 per cent potash. The proportion of



nitrogen varied from .14 per cent in a mixture of manures to 8.9 per cent in a compound fertiliser of high manurial value otherwise. The proportion of potash varied from .2 per cent in a potato fertiliser with a high phosphatic content to 8.1 per cent in a potato fertiliser poor in nitrogen. The taste for these compound fertilisers varies considerably. A common potato manure is one containing  $3\frac{1}{2}$  per cent nitrogen, 16 to 20 per cent soluble phosphate, 6 per cent insoluble phosphate, and 6 to 7 per cent potash. A mixture of 4 cwt. superphosphate, 1 cwt. sulphate of potash, and 1 cwt. sulphate of ammonia would give approximately the same proportions of fertilising constituents. This would be used, in addition to farmyard manure, to the extent of 6 cwt. per acre. A common turnip fertiliser was found to be one containing 2 to 3 per cent nitrogen, 15 to 20 per cent soluble phosphate, 10 per cent insoluble phosphate, and 2 to 4 per cent potash.

The proportion of potash in potash salts varied from 15.8 to 33.2 per cent. Two grades of superphosphate were examined, one containing  $27\frac{1}{2}$  per cent soluble phosphate, and the other containing 35 per cent. The proportions of tricalcium phosphate in mineral phosphate varied from 47 to 64 per cent, while the phosphate in slags varied from 19 to 36 per cent. All the samples of ground mineral phosphate and slags were finely ground, over 80 per cent of the sample passing through the standard sieve, ten thousand meshes to the square inch. Ground mineral phosphate is now in the market with a grade of fineness which is measured by a sieve with 120 meshes to the linear inch. This grade is guaranteed to give 80 per cent fine enough to pass through this sieve, which has 14,400 meshes to the square inch, and is sold at a price equal to one penny more per unit than the mineral phosphate of ordinary fineness (80 per cent passing through the standard sieve).

The following table (Table III.) shows the composition of most of the compound fertilisers analysed during the year:—

[TABLE III.]

TABLE III.

No.	Nitrogen.	Soluble phosphate.	Citric soluble phosphate.	Insoluble phosphate.	Potash.
1	6.02	17.91	3.79	0.57	4.13
2	8.86	16.13	0.63	0.56	2.36
3	0.14	19.86	13.51	1.33	8.06
4	5.57	16.87	3.24	0.49	6.05
5	7.37	18.36	0.91	0.52	3.57
6	3.70	18.08	3.98	3.01	2.63
7	5.70	26.06	...	3.29	...
8	3.39	0.07	...	15.22	0.21
9	0.44	nil	...	62.70	0.20
10	5.29	16.40	2.73	2.93	6.10
11	5.50	15.92	3.21	4.58	5.83
12	5.50	16.24	3.23	2.27	6.09
13	4.97	19.66	2.82	1.32	5.78
14	5.09	19.41	2.57	1.09	5.44
15	4.15	20.81	2.87	4.18	5.78
16	5.26	14.52	2.10	3.63	5.50
17	6.47	15.78	3.21	2.58	3.38
18	6.84	17.70	0.87	0.41	3.03
19	6.78	6.28	8.66	6.29	0.77
20	5.12	17.59	3.91	1.27	4.63
21	4.50	20.11	3.74	2.33	3.70
22	4.71	22.70	2.44	2.29	3.26
23	3.25	...	...	...	...
24	4.39	17.46	8.23	0.84	5.04
25	1.42	2.65	9.50	8.24	1.64
26	3.11	6.18	10.86	13.78	4.00
27	3.84	16.34	0.28	1.39	2.05
28	1.25	nil	14.52	9.88	1.68
29	3.67	17.63	3.18	3.80	3.00
30	3.70	19.65	2.27	1.26	3.55
31	6.23	12.64	5.51	3.59	3.61
32	3.00	...	...	2.37	2.16

## FEEDING-STUFFS.

The decorticated cotton-seed cakes examined contained 9 per cent oil, 42 per cent albuminoids, 5 per cent fibre, while the undecorticated cakes contained on an average 5 per cent oil, 19 per cent albuminoids, and 23 per cent fibre. The average composition of linseed cake was about 12 per cent oil and 24.6 per cent albuminoids. A sample of flax-seed meal was found to contain 18 per cent oil, 15 per cent albuminoids, and 17.6 per cent fibre. Flax-seed meal differs from crushed linseed in containing, in addition to the seed, portions of the fruit. A sample of malt extract used as a substitute for treacle was found to contain 6.5 per cent albuminoids, and 71 per cent glucose, maltose, and dextrine, and

therefore possesses a high feeding value. The samples of fish meal were found to contain on an average 3.1 per cent oil, 60.6 per cent albuminoids, and 18.6 per cent phosphates. The proportion of salt present was 1.9 per cent, a quantity well within the limits guaranteed. The average composition of the dried grains examined was 7.63 per cent oil, 17.12 per cent albuminoids, and 20.46 per cent fibre. One sample of flake maize was found to contain .9 per cent oil, 9.3 per cent albuminoids, and 73 per cent soluble carbohydrates, while a second sample was found to contain 4.2 per cent oil, 8.4 per cent albuminoids, and 71 per cent soluble carbohydrates. A sample of meat meal was found to contain 64.5 per cent albuminoids and 5.5 per cent phosphates, while a sample of dried blood was found to contain 81 per cent albuminoids. The following table (Table IV.) shows the results of analyses of the feeding-stuffs analysed during 1922 :—

TABLE IV.

	Oil.	Albuminoids.	Soluble carbohydrates.	Fibre.	Ash.	Moisture.
Cotton seed cake . . . .	4.87	...	...	...	...	...
Cotton cake . . . .	9.03	42.19	25.34	5.25	8.46	9.73
do. . . .	8.27	28.31	28.65	18.89	5.72	10.16
Cotton seed meal . . . .	6.82	37.62	...	...	...	...
Cotton cake . . . .	5.23	19.63	35.49	22.98	5.85	10.82
Cotton seed meal . . . .	6.98	39.50	...	...	...	...
Dried grains . . . .	6.66	15.56	41.64	24.21	3.85	8.08
do. . . .	8.43	19.25	41.41	16.64	3.29	10.98
do. . . .	7.79	16.56	44.78	20.53	3.25	7.09
Bean meal . . . .	2.08	14.25	64.38	3.30	2.62	13.37
do. . . .	1.77	16.62	54.26	9.00	4.25	14.10
do. . . .	1.80	17.00	56.08	7.47	2.85	14.80
Flaked maize . . . .	4.18	8.44	71.10	2.40	1.35	12.53
do. . . .	1.87	9.31	72.97	1.51	1.38	12.96
do. . . .	2.02	8.19	74.24	1.93	0.80	12.82
China white peas . . . .	1.90	20.56	58.76	4.73	3.15	10.90
Maize germ meal . . . .	8.58	10.19	...	...	...	...
Meat meal . . . .	nil	64.44	nil	...	...	...
Dried blood . . . .	1.00	80.94	nil	...	...	9.88
Linseed cake . . . .	12.13	24.63	36.31	11.37	5.29	10.27
Crushed linseed . . . .	18.32	14.94	32.97	17.64	6.15	9.98
Bishop's weed . . . .	1.70	9.06	47.64	14.67	17.00	9.93
Muntona (malt) . . . .	...	6.50	...	...	1.38	21.12
White fish meal . . . .	3.17	60.56	...	...	...	...

## SILAGE.

Several samples of silage were analysed during the year. It may be of interest to members to show the composition of these samples, and to compare the average composition and average nutritive value of silage with meadow hay, clover hay, and cereal straw. The following table (Table V.) shows the composition of silage as received.

TABLE V.

## SILAGE AS RECEIVED.

	1	2	3	4	5	6	7	8	9
Oil. . . . .	48	26	1.29	1.08	.68	1.88	.90	1.80	1.58
Albuminoids. . .	2.61	2.70	4.95	2.96	5.53	4.81	3.64	3.17	3.45
Sol. carbohydrates	5.66	4.25	10.98	20.26	11.46	13.41	9.05	13.18	7.57
Fibre . . . . .	5.51	4.45	10.30	12.85	9.47	6.99	6.45	7.99	8.33
Ash . . . . .	1.92	1.20	2.80	3.14	2.44	1.65	2.66	1.79	1.50
Moisture . . . .	83.82	87.14	69.68	59.71	70.42	71.26	77.30	72.07	77.57

The average composition of the samples of silage as received was as follows :—

TABLE VI.

## AVERAGE COMPOSITION OF SILAGE.

Oil . . . . .	1.1 per cent
Albuminoids . . . . .	3.8 "
Soluble carbohydrates . . . . .	10.6 "
Fibre . . . . .	8.0 "
Ash . . . . .	2.2 "
Moisture . . . . .	74.3 "
	<hr/>
	100.0 "

There was considerable variation in the proportion of water present, the lowest proportion being 60 per cent, while the highest proportion was found to be 87 per cent. Sample No. 2 was in an extremely wet condition. A large proportion of water flowing from a silo, after filling, takes with it a considerable proportion of the soluble nutrient constituents. In a former report the fact was stated that ten tons of water escaped from a silo within a fortnight. The fluid contained 4 per cent of oil, 2.1 per cent of albuminoids, and 3.5 per cent of carbohydrates. The total food constituents in the percolated water was estimated to be worth £15. It is therefore uneconomical to fill a silo with extremely wet silage. The silage should be weathered a little, and where this is not possible, an experiment should be tried by filling the silo with occasional layers of meadow hay or dry straw in order to absorb the watery material, and to retain as much as possible of the food constituents. Silage, when taken from the silo, cannot be directly compared with meadow hay or clover hay because of its moisture content. It is reasonable, however, to compare silage with turnips which contain approximately 90 per cent of water and about 10 per cent of food constituents. Weight for weight, silage contains about two

and a half times more food units than turnips.<sup>1</sup> Silage has also the advantage of having a narrower albuminoid ratio—that is to say, it is richer in nitrogen, and provides a ratio very suitable for dairy cows. Straw contains approximately from 55 to 60 food units, but it should be borne in mind that here the albuminoid ratio is wide—namely, 1 to 23 in the case of barley and oat straw, and 1 to 27 in the case of wheat straw. The equivalent of 100 lb. of silage would roughly be obtained by 100 lb. of turnips and 28 lb. of straw.

The undernoted table (Table VII.) shows the average composition of silage, hay, turnips, and straw :—

TABLE VII.

## COMPOSITION OF NATURAL FEEDING-STUFFS.

	Silage average.	Meadow hay.	Clover hay.	Turnips.	Straws.		
					Wheat.	Barley.	Oat.
Oil . . . . .	1.1	2.5	2.5	0.25	1.25	1.5	2.0
Albuminoids . . . . .	3.8	10.0	13.0	1.00	3.00	3.5	3.5
Soluble carbohydrates . . . . .	10.6	42.0	37.0	6.00	37.00	38.0	38.0
Fibre . . . . .	8.0	26.0	25.0	1.00	40.00	38.0	37.0
Ash . . . . .	2.2	5.5	6.5	1.25	4.75	5.0	5.5
Moisture . . . . .	74.3	14.0	16.0	90.50	14.00	14.0	14.0
Food units . . . . .	24.0	78.0	79.0	10.00	56.00	54.0	55.0
Albuminoid ratio . . . . .	5.6	7.4	5.2	7.6	26.06	22.7	22.7

If these natural feeding-stuffs are considered in a bone-dry condition, it is seen that bone-dry turnips contain a significantly higher proportion of soluble carbohydrates and sugary material—63 per cent as against 44 for clover hay, 49 for meadow hay, and 41 for silage. The following table (Table VIII.) shows the composition of the solid dry matter in the above-named natural feeding-stuffs :—

TABLE VIII.

## COMPOSITION OF NATURAL FEEDING-STUFFS (MOISTURE FREE).

	Silage average.	Meadow hay.	Clover hay.	Turnips.	Straws.		
					Wheat.	Barley.	Oat.
Oil . . . . .	4.28	2.91	2.98	2.63	1.45	1.74	2.33
Albuminoids . . . . .	14.79	11.63	15.48	10.53	3.49	4.07	4.07
Soluble carbohydrates . . . . .	41.25	48.84	44.05	63.16	43.02	44.19	44.19
Fibre . . . . .	31.13	30.23	29.76	10.53	46.51	44.19	43.02
Ash . . . . .	8.56	6.40	7.74	13.16	5.52	5.81	6.40
Food units (excluding fibre) . . . . .	88.9	85.20	90.2	96.1	55.4	58.7	60.2

<sup>1</sup> One ton of silage contains approximately one-quarter ton equivalent carbohydrates, while one ton of turnips contains approximately one-tenth ton of equivalent carbohydrates.

It will be seen, viewed in this way, that turnips contain the highest number of food units, while silage, meadow hay, and clover hay contain approximately the same number of food units. A member who has had a considerable experience of silos informs me that he is able by the use of silage to reduce the acreage under turnips on his farm by one-fourth. He has also been able to winter more cattle than formerly. This is due to the *replacing* of artificial feeding-stuffs by the silage, and to the fact that silage *supplements* the ordinary feeding on the farm in a very economical and efficient manner.

Silage in America is obtained largely from corn and clover, corn and rye, and alfalfa and mixed grasses. The moisture content, as shown from available data, varies from about 70 to 80 per cent. Corn and clover is a common mixture, with an albuminoid ratio of 1 to 8. It would be interesting to obtain data showing the cost of silage per ton or per acre. Doubtless the cost would be found to vary widely, and would depend upon the price of labour, the yield per acre, rent, and other factors. The average price of silage in America, as shown by recent statistics, was found to vary from 19 to 29 dollars per acre, or, expressed in tons, from 3·3 to 3·7 dollars per ton. The distribution of cost was as follows :—

TABLE IX.

## DISTRIBUTION OF COST OF SILAGE PER ACRE (ILLINOIS STATION, 147 ACRES).

Land rental . . . . .	20·2 per cent
Fertilisers . . . . .	14·3 "
Seed . . . . .	1·6 "
Labour . . . . .	47·0 "
Twine . . . . .	1·6 "
Coal . . . . .	1·8 "
Rental of power for cutter . . . . .	4·6 "
Interest and depreciation . . . . .	6·7 "
Miscellaneous . . . . .	2·2 "
	<hr/>
	100·0 "

It should be noted that the use of silage has practically revolutionised the feeding of dairy cows in the United States. It provides a uniform supply of succulent material practically equal in palatability and nutritive value to early grass. Since it provides succulent material for any time of the year, it is eminently well suited for dairy cows.

## MILKS.

Of the thirty-four samples of milk examined, four were found to contain less than 3 per cent butter-fat. The other samples may be classified as follows—poor, 3 to 3.25 per cent butter-fat, 4 samples; fair, 3.25 to 3.50 per cent, 2 samples; fairly good, 3.50 to 3.75 per cent, 10 samples; good, 3.75 to 4 per cent, 10 samples; very good, 4 to 4.25 per cent, 3 samples; and excellent, 4.25 per cent and over, 1 sample—thirty-four samples in all.

The attention of members is drawn to the fact that the Interdepartmental Committee, appointed by the Secretary for Scotland to report on the "Laws, Regulations, and Procedure Governing the Sale of Milk in Scotland," reported to the Secretary in September last. The Committee came to the conclusion that a new system of administration was necessary in regard to the sale of milk. The members felt strongly that the whole system of administration as affecting milk demanded simplification. Members are doubtless aware that the present regulations provide that, until the contrary is proved, any sample of milk officially taken and falling below 3 per cent butter-fat or 8.5 per cent solids not fat is presumed to be adulterated. The Committee recommend a departure from this presumptive standard. They recommend that instead there should be a legal minimum limit for both butter-fat and solids not fat. The limits suggested by the Committee are 3 per cent butter-fat and 8.5 per cent solids not fat. If this recommendation were adopted by Parliament, it would mean that every vendor of milk would be responsible for the quality of the milk sold by him, and could not plead that the cows on that particular occasion were giving poor milk. The law would require of him to see that the quality of his milk was always up to the prescribed standard. The report of the Committee is of great importance, and should prove of great value to dairy farmers and to the public generally. Dairy farmers and milk vendors are strongly recommended to make a close study of the recommendations made by the Committee. It is extremely desirable that the dairy world should express a definite and clear opinion on the Report. Members, and especially dairy farmers, should note the fact that provision is now made for enabling dairymen to sell milk under special designations. Three of these designations carry with them the necessity of supplying milk containing not less than 3.5 per cent butter-fat. This may be done under "The Milk (Special Designations) Order (Scotland), 1922, dated 11th December 1922, made by the Scottish Board of Health under Sections 3 and 14 of the Milk and Dairies (Amendment) Act, 1922." The Milk and Dairies Amendment Act of 1922 be-

stows powers on the Scottish Board of Health bearing on the chemical composition of milk and on its bacterial purity. Under this order every Local Authority is authorised to grant licences to sell milk under any of the four named designations within the area of the authority. The grades or designations recognised by the Board of Health are (1) certified milk or milk from a herd which has passed the prescribed tuberculin tests, which conforms to the prescribed standard of bacterial purity, which contains at least 3·5 per cent butter-fat, and which is delivered to the consumer in bottles previously sterilised by same on the premises; (2) Grade A (tuberculin tested) milk, or milk from a herd which has passed the prescribed tuberculin tests, which passes the second standard of bacterial purity, and which must be delivered in bottles to the consumer; (3) Grade A milk, or milk from a herd which has been examined clinically at least three times a year by a veterinary surgeon nominated by the Local Authority, and which is to be delivered to the consumer in a container with the seal unbroken as received, or in sterilised bottles, or in other sealed and labelled containers of not less capacity than two gallons. This grade should also contain not less than 3·5 per cent butter-fat, and should pass the second standard of bacterial purity; and (4) pasteurised milk, or milk which has been retained for at least half an hour at a temperature between 145° and 150° F., and has thereafter been immediately passed to a covered cooler and the temperature reduced to 50° F. or less. It is not necessary for pasteurised milk to contain 3·5 per cent butter-fat, but it must conform to the first standard of bacterial purity. An amending Order bearing on pasteurised milk has been issued, providing that until the 1st day of July 1923 the conditions bearing on pasteurised milk shall be deemed to be satisfied if the milk is treated not more than once by a suitable heating process, and immediately cooled to a temperature of not more than 55° F.

#### WATERS.

Of the 23 samples of water, 14 were found to be of good quality, and 9 were of bad quality.

#### EXAMINATIONS FOR POISONS.

Of the examinations for poisons, four were found to be cases of lead poisoning, which is by far the commonest form of poisoning among live stock. The stomach of a heifer was found to contain a large quantity of hæmatite, a well-known iron compound. A sample of wheat was found to contain



strychnine. The mortality among poultry in one case was found to be due to an excess of common salt, while another case was found to be due to impaction of the crop from over-feeding with grain. Samples of linseed cake and bean meal were examined for poisonous glucosides, with negative results. The supplies in both cases were suspected to be the cause of illness and death of live stock. Occasionally there is a tendency to blame feeding-stuffs as being the cause of illness, even after a careful examination has proved the absence of poisonous constituents. In cases where the chemist demonstrates the absence of poisons, disease or error in feeding should be suspected.

## DEMONSTRATION OF FARM TRACTORS AND TRACTOR IMPLEMENTS.

17TH, 18TH, 19TH, AND 20TH OCTOBER 1922.

IN November 1921 the Directors of the Highland and Agricultural Society decided, on a recommendation by the Implements Committee, to hold a Demonstration of Farm Tractors and Tractor Implements in the autumn of 1922, provided suitable ground could be obtained. It was accordingly remitted to a Sub-Committee to consider details, draw up a scheme, look out for suitable ground, and report.

### COMMITTEE OF MANAGEMENT.

This Sub-Committee, which was subsequently appointed a Committee of Management charged with carrying out the whole arrangements, was composed as follows: Mr Phipps O. Turnbull, Smeaton, Dalkeith, *Convener*; Mr Thomas Kirk of Abbeymains, Haddington; Mr A. B. Leitch, Inchstelly, Alves, Forres; Mr William Poole, J.P. (Messrs Armstrong & Main), Edinburgh; Mr G. Bertram Shields, Dolphingstone, Tranent; Mr John Speir, Newton, Glasgow; Mr George Will, Crichton Royal, Dumfries; Professor R. Stanfield, M.Inst.C.E., Consulting Engineer; and the Secretary.

### DATE OF DEMONSTRATION, &c.

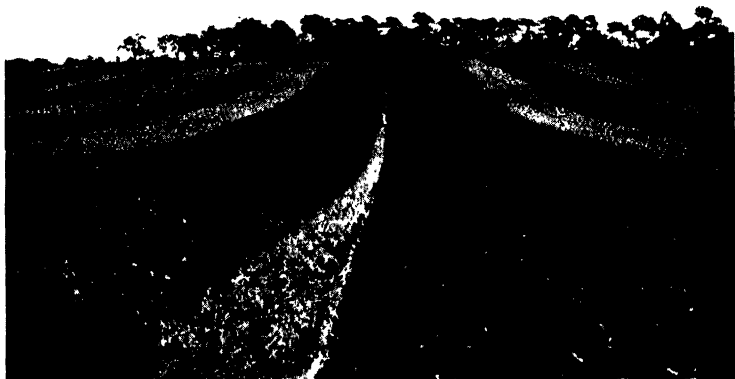
On the recommendation of this Committee, it was decided in February 1922—

- (1) That the date of the Demonstration be fixed for the 17th, 18th, 19th, and 20th October 1922.
- (2) That the classification of entries be on the following lines :—
  - (a) Tractors. These not to exceed 40 cwt. in weight.
  - (b) Implements—including Ploughs, Sub-Soiling Implements, Cultivators, Harrows, and Cultivating Implements generally—special attention being directed to combinations of implements—*e.g.*, cultivators and harrows—calculated to minimise the number of operations necessary to prepare the land for seed.
  - (c) Implements suitable for Smallholders, Fruit Growers, and Market Gardeners.

- (3) That the Tractors be demonstrated ploughing both lea and stubble, and also pulling such implements as cultivators and harrows. That there be no dynamometer tests, no haulage tests, no threshing tests, and no oil-consumption tests.

#### SITE.

After visiting and inspecting various suggested sites, the Committee eventually fixed upon the farm of Fordel, Dalkeith, Mid-Lothian, where several fields were kindly placed at the disposal of the Society by the tenant of the farm, Mr Thomas Harper. The thanks of the Society have to be recorded to Mr Harper for the excellent facilities provided for conducting



[Photo by H. Scott Hall.]

Fig. 45.—General View, showing Tractors at Work.

the demonstration. The fields, which comprised three fields of stubble and one of lea, adjoined or were in close proximity to the main road from Dalkeith to Pathhead, about two miles from Dalkeith and eight miles from Edinburgh. The nature of the ground may be described as a heavy loam. On two of the stubble fields, where ploughing took place, there was a fairly uniform slope, with a maximum gradient of about 1 in 8. The lea field was practically level, as was also the third stubble field on which cultivating and grubbing took place.

#### REGULATIONS.

A set of rules and regulations was drawn up, of which only the following need be mentioned here. Not more than two tractors of the same make or type could be entered for the

demonstration. No entry fee was charged, but a deposit of £5 for each tractor, and £1 for each implement, required to be lodged along with the entry. These deposits were returned on its being found that the tractor or implement was sent forward and took part in the demonstration, to the satisfaction of the Committee.

The carriage and cartage expenses of all approved tractors and implements, one way, were paid by the Society.

#### REPORTING COMMITTEE.

The following were appointed a Reporting Committee to draw up an official report on the Demonstration: Mr William Bruce, M.A., B.Sc., Seton Mains, Longniddry; Mr Charles



*Photo by H. Scott Hall.*

*Fig. 46.—Another View, showing a Plot finished by Tractor.*

Douglas, D.Sc., C.B., of Auchlochan, Lesmahagow; Mr William Poole, J.P. (Messrs Armstrong & Main), Edinburgh; Mr John Speir, Newton, Glasgow; Mr Phipps O. Turnbull, Smeaton, Dalkeith; Mr George Will, Crichton Royal, Dumfries; Professor Stanfield, M.Inst.C.E. (Consulting Engineer), 24 Mayfield Gardens, Edinburgh; and the Secretary.

The Committee was instructed, in preparing their Report, to give special attention to the following points:—

- (a) Weight of Machine.
- (b) Mechanical design and construction.
- (c) Quality of work done by Implements.
- (d) Time taken and attendance required.
- (e) Adaptability for ploughing different widths and depths.
- (f) Adaptability to various kinds of work, such as cultivating, harvesting, and the like.
- (g) Ease and safety of handling.

- (h) Ease of turning, and space and time required for same, and uniformity of furrow ends in ploughing.
- (i) Facility and efficiency of attachment of tractor to plough and other farm implements.
- (j) Price.

#### OFFICIAL OBSERVERS.

The thanks of the Society are recorded to those gentlemen who gave valuable service as Observers at the demonstration, and whose notes on the work of various exhibits have been extremely useful to the Reporting Committee.

#### ENTRIES.

A very gratifying entry of tractors and implements was secured, comprising—17 Tractors, three of which, however, were over the stipulated weight limit of 40 cwt.; 2 Rotary Tillers; 26 Ploughs; 11 Cultivators; 2 Grubbers; 10 Harrows; and 3 other implements. With the exception of two implements, all took part in the demonstration. The entries were made by twenty-two firms or individuals.

#### SCHEME OF WORK.

The general scheme of work was as follows :—

*Tuesday, 17th October.*—Ploughing and rotary tilling on stubble.

*Wednesday, 18th October.*—Ploughing on lea; rotary tilling on stubble; some harrowing across ploughed stubble.

*Thursday, 19th October.*—Ploughing and rotary tilling on stubble, *in forenoon*; cultivating, grubbing, and harrowing on stubble, *in afternoon*.

*Friday, 20th October.*—Mostly occupied in finishing out plots on stubble, and sub-soiling. Unfortunately, wet weather interfered with operations on this day.

The fields were laid off in plots 24 yards wide, with headlands of 21 feet. Prior to the Demonstration, openings or feerings were made by ploughing out two furrows, so that all had equal facilities at starting. The method of ploughing was entirely "scaling" or "winding," the tractor being required to plough the land between the two feerings.

There was no restriction as to the type of plough to be used or the number of furrows taken. The depth of ploughing was, however, prescribed, this being 8 or 9 inches on stubble, and 6 or 7 inches on lea.

Work commenced at 9.30 A.M. each day and finished at 4 o'clock, an interval being allowed for luncheon between 12 noon and 1.30 P.M.

The intention of the Committee was that Exhibitors should be left as free as possible to demonstrate the capabilities of their machines in the manner they considered most suitable.

## DESCRIPTION OF TRACTORS AND IMPLEMENTS, by Professor R. STANFIELD, Consulting Engineer, and REPORTS BY THE COMMITTEE.

---

### TRACTORS.

The AUSTIN TRACTOR, invented and manufactured by the Austin Motor Co., Ltd., Longbridge Works, Northfield, Birmingham. Price £300.

The Austin is a four-wheeled tractor, driving through the two rear wheels. It is of the single unit type of construction, the engine, transmission gear-box, and rear-axle casing being coupled together to form the chassis. The working parts are thus completely enclosed and protected from dust and dirt, thereby reducing wear and tear to a minimum. The forward end of the chassis is carried on the front axle by a single pivot, and is sprung at this point by means of an enclosed helical spring, which permits a flexibility when travelling over uneven ground; the design of the front axle appears to combine stability with freedom of action.

The power unit consists of a four-cylinder vertical engine, developing 25 B.H.-P. at 1200 revolutions per minute, when using petrol as a fuel. The cylinders, which are cast together, have a diameter of  $3\frac{1}{2}$ " with a stroke of 5", and the cylinder head is detachable. The valves are interchangeable, and are placed on one side of the engine. The crank-shaft, which is hollow, is supported on five bearings, and the whole is of a very simple and substantial design.

There is forced-feed lubrication to the engine by means of a gear pump, which supplies oil to the main bearings and connecting rod big ends through the hollow crank-shaft; an oil pressure gauge, in view of the driver, is provided.

The tank, from which the fuel is fed by gravity to the carburetter, has a capacity of ten gallons, and is situated immediately behind the cylinders and forms the rear support for the bonnet. Ignition is effected by means of a high-tension magneto, and a magneto switch is fitted on the front of the fuel tank. The cooling water is circulated by means

of a pump, and the radiator is carried at the front of the engine, a large gear-driven fan being provided for cooling purposes. All the gearing and bearings are enclosed and protected from dust, &c.

The power of the engine is transmitted through a steel cone clutch, which engages with detachable Ferodo segments (Austin patent). The first motion is by bevel gearing, and the change speed gears and the final drive is by spur gearing. All the gears are of forged steel, case hardened, and run in oil, while the shafts are carried in roller bearings.

Two independently acting expanding metal-to-metal brakes are fitted to the rear wheels. The steering is of the worm and sector type, and is enclosed in the main gear-box casing.

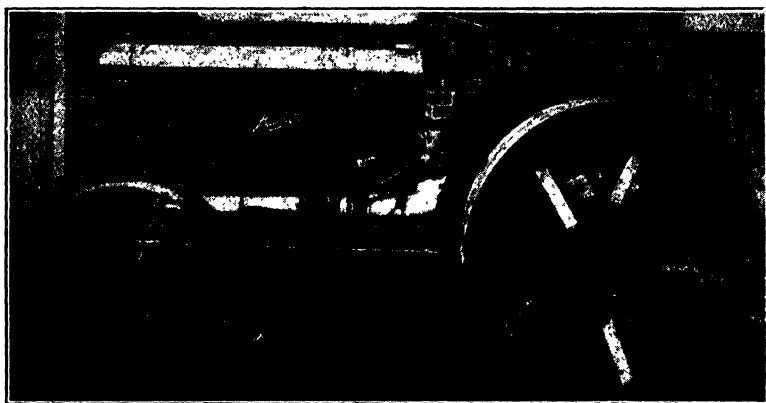


Fig. 47.—*The Austin Tractor.*

The engine is also provided with an efficient governor of the centrifugal type.

There are two forward speeds,  $2\frac{1}{2}$  and 4 miles per hour, and a reverse of 2 m.p.h.

The over-all dimensions are 9' 2" long by 5' 1" wide, with a wheel-base of 5' 8". The driving wheels are 42" in diameter by 10" wide, with a track of 4' (centre to centre). The front wheels are 28" in diameter by 6" wide.

The approximate weight is 28 cwt.

This tractor is designed on simple and substantial lines, while special attention appears to have been given to accessibility, and all the usual adjustments can be readily carried out while the tractor is at work.

#### *Committee's Report.*

This is a compact well-built tractor, of moderate weight. The working parts are well protected to exclude soil and

grit. It is easy to drive and manipulate at the turnings. While ploughing, two wheels travel in the furrow. It proved itself capable of pulling a 2-furrow Ransome plough, ploughing to a depth of 8" and 10" wide, even when allocated to one of the steepest plots on the ground. It may be regarded as a disadvantage that the normal engine speed is so high as 1500 revolutions per minute, but, of course, a demonstration of this kind did not provide an opportunity of forming any opinion as to the effect of this on the life of the tractor.

**The BLACKSTONE TRACTOR**, manufactured by Blackstone & Co., Limited, Stamford. Weight, 46 cwt. Price, £420.

The Blackstone is a self-laying track or caterpillar type of tractor. The track frames are of patented design, being hinged on the rear axle, and carry the front of the tractor on special equalising gear, so that the tracks conform to all inequalities of the ground without strain. It will be seen from the illustration that the tracks are so constructed as to prevent any soil dropping into the interior when the track is at the top. The track links are designed to give a maximum grip of the ground, and with sufficient area of bearing surface to carry the tractor easily over the lightest soils. The tracks can be put together with very little trouble, the pins being kept from rotating by means of two pieces of quarter rod, which are bent round after the pins have been put into place. A special feature of the track is its self-cleaning property; the open sides of the web underneath the rail portion of the track allow the dirt to be freely extruded and to fall away as it dries. The track wheels are centrally oiled, one lubricator supplying one track-frame complete.

The steering is accomplished by means of an irreversible gear, by which the driving wheels are locked together when the tractor is required to go straight. By turning the steering-lever to right or left, the worms which lock the differential pinions are rotated, thus bringing the differential gear into action, and causing one track to advance and the other to retard according as to whether more or less pressure is applied to the steering-lever. The gear-box forms the rear part of the frame, and being bolted to the engine base, maintains the transmission gears in perfect alignment with the engine shaft. There are three speeds forward— $1\frac{1}{2}$ ,  $2\frac{1}{2}$ , and  $3\frac{1}{2}$  m.p.h., and a reverse, the normal or ploughing speed being a direct drive. The final transmission is by internal gearing running in oil and enclosed in a dirt-proof case. The clutch and brake-pedals are conveniently placed above the driver's foot-rests.

The power is obtained from a three-cylinder vertical engine,



5" bore by  $6\frac{1}{2}$ " stroke, and developing 25 B.H.-P. at a normal speed of 750 revolutions per minute. The engine starts instantly from cold on paraffin, neither petrol nor lamps being used; cranking is, moreover, eliminated. To effect this, the engine, in which the cranks are set at 120 degrees apart, for the moment is turned into an air motor, each cylinder taking in compressed air on the down-stroke, and exhausting on the up-stroke. Once the engine is in motion, the starting-lever is pushed back, with the result that the paraffin is sprayed in and ignited, the engine then running as an ordinary Blackstone "Start from Cold" type. No vaporiser is required, and the atomising of the fuel is brought about by the action of air under pressure in conjunction with a special spraying

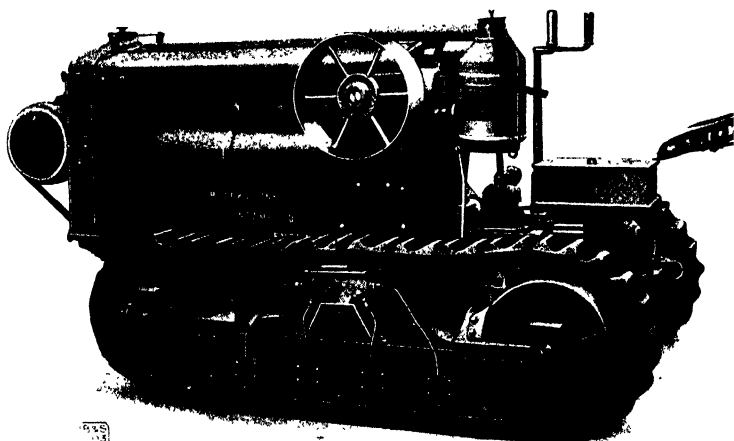


Fig. 48.—*Blackstone Tractor.*

device, which breaks up the fuel into a fine mist, thereby tending to bring about perfect combustion. A small air compressor driven direct from the crank-shaft supplies the necessary air for starting and atomising. The engine is fitted with an adjustable governor, which ensures accurate speed regulation at all loads when ploughing or driving farm machinery.

Ignition is by a small generator, battery, and solenoid coil, which gives a perfect and easy ignition at all times, and also provides current for lighting head-lamps, inspection lamp, &c.

Lubrication is provided through a small plunger pump, which forces oil to each bearing and crank-pin, the pistons and small ends being lubricated by the oil thrown off from the crank-pins.

The cooling system is by radiator, with fan and centrifugal pump.

For driving farm machinery, two pulleys of different sizes are provided, one on each side of the tractor, and have clear ways, front and back, for the belt; the larger pulley, 17" by 6", being suitable for driving a full-sized threshing-machine, and the other, 9" by 6", can be utilised for various other types of farm machinery.

The over-all dimensions of this tractor are 103" in length by 54" wide, with a wheel base of 71".

This tractor has ample power capacity, and should be economical as regards fuel consumption. The fitting of a self-starter which enables the tractor to start under any condition is a decided advantage, and the method adopted for atomising the fuel seems to be effective, the atomising injection and ignition of the fuel being independent of the speed of the engine. Considerable attention appears to have been given to produce a strong and serviceable machine.

#### *Committee's Report.*

This is a tractor of the track or caterpillar type, weighing 46 cwt. A special feature is a 3-cylinder engine, with self-starter. It pulled 2-furrow Dux and 2-furrow Sellar ploughs on stubble, and also a Newlands 7-tine grubber. It had ample power for this work. Through its plough not being ready for work, and later through a break in one of its chain tracks, this machine was not seen at work on lea. The Committee were not impressed with the suitability of this tractor for the conditions existing in Scotland.

The **BRITISH WALLIS TRACTOR**, manufactured by  
Ruston & Hornsby, Limited, Lincoln and Grantham.  
Price £300.

The British Wallis is a four-wheeled general purpose tractor, driving through the rear wheels. The engine, gear-box, and rear-axle unit are three separate assemblies, bolted together, and securely held by a "U"-shaped pressed steel under-frame, with a flanged end for attachment to the rear-axle unit, which is made up of two heavy castings with extension arms carrying the axle shafts and brake operating gear. The under-frame forms a crank case for the engine, and an oil reservoir for the gear-box and rear axle, the whole of the transmission and differential being entirely enclosed; all necessary adjustments can be readily effected through hand holes provided at suitable positions in the under-frame. The front axle follows traction engine design, and is centrally pivoted

to allow for working on uneven ground. The steering-box is a heavy casting rigidly attached to the main frame, and the steering is by worm and sector.

The tractor is provided with a four-cylinder vertical engine, which is of the slow speed type, and is specially designed to run on paraffin, petrol being used for starting; it develops 28 B.H.-P. at a speed of 875 revolutions per minute. The motor housing is a cast-iron block fitted with removable cylinder sleeves, so that a damaged or worn sleeve can be replaced without necessitating reboring. This arrangement gives a large water jacket round each cylinder, which is

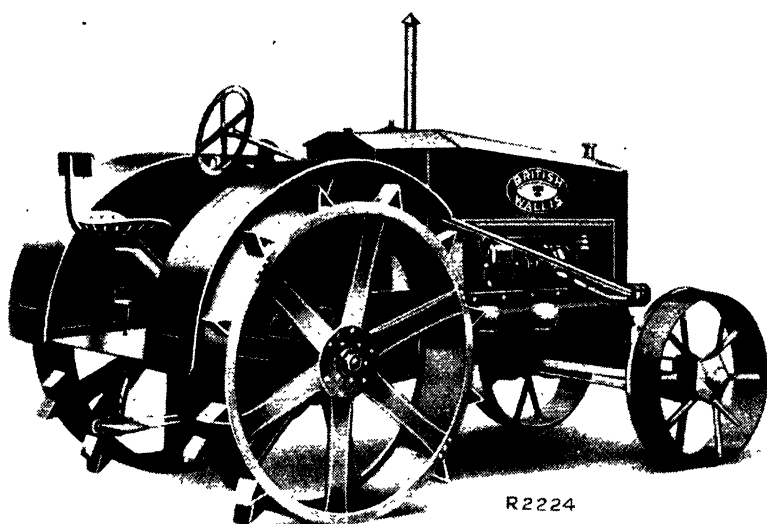


Fig. 49.—*British Wallis Tractor.*

essential for engines using paraffin as a fuel. The cylinder head is detachable.

The cylinders have a bore of  $4\frac{1}{4}$ " with a stroke of  $5\frac{3}{4}$ ", and the normal speed of the engine is from 850 to 875 revolutions per minute. The crank-shaft is supported on three bearings, which are of ample dimensions.

The ignition is through a high-tension magneto with impulse starter, which makes it easy to start up the engine.

A governor of the hydraulic type is provided, and the speed of the engine is automatically controlled by the pressure of the circulating water acting on a rubber diaphragm, which acts through a spring connection to the carburetter; the diaphragm is placed near to the outlet from the water-

pump, and the pressure of the water varying according to the speed of the motor brings about the necessary control of the fuel.

The fuel is supplied to the engine through a Halliday vaporiser carburetter. Before entering the cylinders, the vaporised paraffin is mixed with a small quantity of atomised water while passing through the induction manifold, and thus assists in keeping down the temperature of the charge before it enters the cylinders; this water is drawn by suction from a small tank situated under the main fuel tank.

Splash lubrication is used for the engine, the oil being supplied by a special gear-driven pump to four trays into which the big ends of the connecting rods dip during the rotation of the crank-shaft.

The clutch consists of three metal discs separated by two Ferodo discs, and means are provided for readily making adjustments when necessary. The first reduction is by bevel gearing on to the sliding gear-shaft, spur gearing being used for the after reductions, and the drive to the rear axle, which is in two parts and of ample dimensions. Two speeds forward and a reverse are provided. The differential is of the three-bevel pinion type.

The belt pulley for driving stationary machinery is 18" in diameter by  $6\frac{1}{2}$ " wide, and is mounted at the end of the sliding gear-shaft, which has a speed of 430 revolutions per minute, 25 B.H.-P. being given off at this speed.

Independently operated internally expanding Ferodo lined brakes are fitted to the central bosses of the rear wheels, and an additional brake acts on the belt pulley.

The cooling water is circulated through a honeycomb radiator by a centrifugal pump.

The drawbar is of a special type, with vertical and horizontal adjustment.

The paraffin (20 gallons) and petrol (2 gallons) tanks are in one unit, but with separate compartments for each fuel.

The over-all dimensions are 11' by 61", with a wheel base of 7', and a tread of 49". The rear wheels are of the suspension type, 48" in diameter by 12" wide, and the front wheels are 30" in diameter with 8" face. The wheels are made with specially rolled and welded rims, and are light in construction, but of considerable strength.

Hyatt roller bearings are fitted throughout.

The approximate weight of this tractor is 36 cwt.

This tractor possesses ample power for any kind of agricultural work, and the fact that the engine runs at a comparatively slow speed is of considerable importance. The general construction is on lines designed to withstand the severe strains to which tractors are usually subjected, and it is simple as regards manipulation.

*Committee's Report.*

This is a tractor of moderate weight, and appears to be substantially constructed on sound practical lines. It pulled a 3-furrow Ruston Hornsby plough with ease, and was easily driven and manipulated at turning. Practically no time was lost on adjustments, the work was performed quickly, and the finished plots were considered amongst the best on the ground.

The CASE TRACTORS, manufactured by The J. I. Case Threshing Machine Company, Racine, Wisconsin, U.S.A.

Two tractors—12/20 H.-P. and 15/27 H.-P.—were exhibited by The J. I. Case Threshing Machine Company, 134 King Street, Hammersmith, London, W. 6; and one tractor—10/18 H.-P.—by Henderson Brothers, 29 Barnton Street, Stirling.

The essential particulars of the three tractors are as under :—

Rated B.H.-P.	10-18	12-20	15-27
Maximum B.H.-P.	22	25	33
Price	£235	£295	£375
Weight, cwt.	34	38	58
Cylinder bore, inches	3 $\frac{1}{8}$	4 $\frac{1}{8}$	4 $\frac{1}{2}$
Stroke, inches	5	5	6
Speed of engine, R.P.M.	1050	1050	900
Belt pulley, diameter, inches	14 $\frac{1}{4}$	14 $\frac{1}{4}$	16
Width of driving belt, inches	5	6	6
Speed of belt pulley, R.P.M.	1050	1050	900
Length over-all, inches	101 $\frac{1}{2}$	109	127
Width over-all, inches	56	58 $\frac{5}{16}$	72
Wheel base, inches	65	65	76 $\frac{1}{2}$
Driving wheels, diameter, inches	42	42	52
Driving wheels, width, inches	9	12	14
Speeds of tractor, M.P.H.	2 $\frac{1}{4}$ , 3 $\frac{1}{2}$	2 $\frac{1}{4}$ , 3	2 $\frac{1}{4}$ , 3
Turning circle, outside diameter, ft.	22	24	27

The Case is a four-wheeled tractor, the drive being taken through the rear wheels. It is built on a light but rigid one-piece cast frame, which enables the engine, transmission gear, and rear axle to operate as one unit, so that there is no danger of the gears getting out of alignment. The front axle, made of drop-forged steel, is of the automobile type, each wheel turning on a separate stub axle; the mounting of the front axle gives the frame a three-point suspension. The steering gear is of the worm and gear type, the worm being double-threaded, which enables the front wheels to turn twice as far

for the same movement of the steering wheel as with the ordinary steering gears.

This tractor has a low centre of gravity, and the drawbar is pivoted to the under side of the frame casting at a point well forward of the rear axle; this construction, combined with a suitable weight distribution, tends to hold all four wheels to the ground. The drawbar is adjustable to suit all requirements. The spokes and felloes of the wheels are formed from a single plate, and riveted to the rim, resulting in a strong and rigid construction without excessive weight.

The power is obtained from a four-cylinder vertical engine mounted crosswise with respect to the centre line of the



Fig. 50.—Case Tractor, 12-20 H.P.

tractor. The cylinders are cast *en bloc*, and are fitted with renewable liners. The valves are located in the cylinder head, which is detachable, thus facilitating the removal of carbon deposits and the operation of valve-grinding. The entire valve mechanism is enclosed in a dust-proof steel cover, and all parts are lubricated by oil spray from the crank-case. The pistons are made in two parts, the head being attached to the body by a screwed joint at the line of the top ring; this construction permits of the use of a specially designed piston ring at the compression end. The lubricating oil is drawn through a filter from the bottom of the crank-case, and forced through ducts drilled in the crank-shaft to the three main bearings, also to all the connecting rod and cam-shaft

bearings; the pistons and other moving parts are lubricated on the "splash" system.

The fuel is supplied through a simple single adjustment carburetter combined with a specially designed intake manifold, which is provided with a heat-regulating device whereby it is possible to use the exhaust gases from two or all four cylinders to heat the charge. A water-type air washer is fitted to remove all dust, &c., from the incoming air. The engine is provided with an efficient centrifugal-type throttling governor.

The cooling water is circulated by means of a centrifugal pump through a radiator of the tube type with fins. The circulation of the water is regulated by a "Sylphon" thermostat, which enables the engine to warm up rapidly after starting, and maintains a nearly uniform temperature regardless of load or weather conditions.

The power is transmitted from the engine crank-shaft through a fibre-faced disc clutch, chrome nickel steel drop-forged spur gearing with machine-cut teeth, and bevel pinion type differential to the rear wheels; a differential lock is provided in case one driving wheel slips in soft ground.

Hyatt roller bearings are fitted to the whole of the transmission unit, including the one-piece live rear axle.

#### *Committee's Report.*

Two Case tractors took part in the demonstration, these being the 10/18 H.-P. and 12/20 H.-P. (new design). These tractors are compact, substantially constructed, and well protected from soil and grit. Both tractors operated 2-furrow ploughs, one a Massey-Harris, and the other a Ransome. They appeared to have an ample reserve of power, and were easily driven and manipulated at the ends.

A Case 15/27 H.-P. tractor was also shown, weight 58 cwt. It pulled a Cockshutt 3-furrow plough. This machine requires considerable space for turning, and is not well adapted for farming operations in Scotland.

The CLETRAC TRACTOR, exhibited by H. G. Burford & Company, Limited, 16 Regent Street, London, S.W. 1.

The following table gives the leading particulars of the two tractors submitted:—

Description.	F type Cletrac Junior.	W type Cletrac.
Weight, cwt. . . . .	17½	30½
Price, London . . . . .	£230	£395
Rated B.H.-P. . . . .	17	25
Cylinder diameter, inches . . . . .	3½	4
Piston stroke, inches . . . . .	4½	5½
Normal engine speed, R.P.M.	1000	1000

The Cletrac is a tractor of the chain-track or caterpillar type, which combines low weight with a good drawbar pull and a fairly high ploughing speed.

The power is obtained from a four-cylinder overhead-valve vertical engine, the cylinders being cast in one piece with the top half of the crank-case. All the moving parts are light in construction, and are made from high-grade steels, special attention being given to the diameter and length of bearings for the crank-shaft. Paraffin is the principal fuel used after the starting has been effected by petrol, the supply of fuel to the carburetter, which is of the ordinary float and

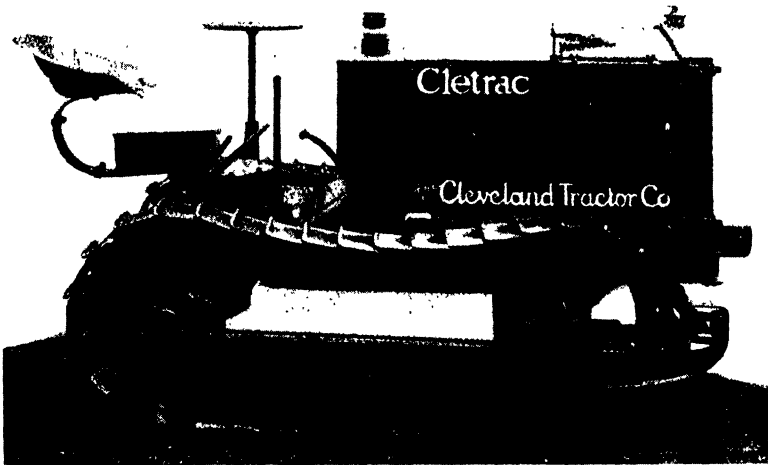


Fig. 51.—*Cletrac Tractor*, 25 H.-P.

jet type, being controlled by a two-way cock in communication with a two-compartment fuel tank situated above the engine. The exhaust gases from the engine are carried round the inlet pipe to assist in vaporising the paraffin. When petrol alone is used as a fuel, the exhaust gases are diverted by means of a reversible valve situated in the exhaust manifold, whereby they pass directly into the air without heating the fuel pipe as described for paraffin. The speed of the engine is controlled by a centrifugal governor acting on the throttle valve. The cooling water is circulated through a honeycomb radiator by means of a centrifugal pump, and the cooling is assisted by a fan. Force feed lubrication is provided for the engine.



The drive from the engine is taken through a multiple dry-disc clutch consisting of alternate steel and Ferodo plates. The gearing provides for one speed forward and a reverse. When the tractor is in gear, the drive is direct to the differential by means of bevel gears, the final drive to the chain-track wheels being by pinions meshing with internally toothed rings on the rear driving wheels. The chain-track, lower track wheels, &c., are carried by a sub-frame, which is connected at the front end to the main channel section steel frame through a transverse spring to take up road shocks, and to compensate for any irregularity in the surface of the ground, so as to ensure that both tracks will have constant land-contact. The chain-tracks are adjustable to take up the slack, and the lower track wheels are mounted on dust-proof roller bearings fitted with grease lubricators.

The steering of the tractor is effected through two asbestos-lined band brakes, situated one on each side of the differential, and by turning the steering wheel in either direction, one or other of these brakes is put into operation, causing the corresponding chain-track to be locked whilst the other runs free.

The speed of the tractor is variable from one to three miles per hour, determined by the speed of the engine through the governor.

A belt pulley, situated in front of the radiator and coupled direct to the engine crank-shaft, is provided for driving the usual stationary machinery.

The Cletrac tractor seems to be well constructed, it is speedy, easily manipulated, and all the parts are readily accessible.

#### *Committee's Report.*

Two of these tractors were shown—viz., 17 H.-P. and 25 H.-P. They are both of the track or caterpillar type. The smaller one is only  $17\frac{1}{2}$  cwt. in weight. It pulled a Ransome single-furrow plough on stubble and a Ransome 2-furrow plough on lea, and did good work with a minimum of attendance. It was also tried on stubble with a Ransome 9-tine spring-tine cultivator, but was found to have insufficient power to pull the cultivator working at a proper depth. The 25 H.-P. pulled a Ransome 2-furrow plough on stubble, and on lea both 2-furrow and 3-furrow ploughs were drawn. There appeared to be no lack of power for the work. These tractors are extremely compact and easily manipulated. In ploughing they travel entirely on the unploughed land.

The **FORDSON TRACTOR**, manufactured by the Ford Motor Company (Eng.), Limited, Trafford Park, Manchester, and exhibited by Henry Alexander & Company, Nottingham Place, Edinburgh. Weight,  $21\frac{1}{2}$  cwts. Price, £120.

The Fordson is a four-wheeled tractor, with unit construction as regards the assembly of engine, transmission gear-box, and rear-axle casing. The front axle is of "I" beam section, centrally pivoted, giving a three-point suspension, so as to enable the tractor to travel over uneven

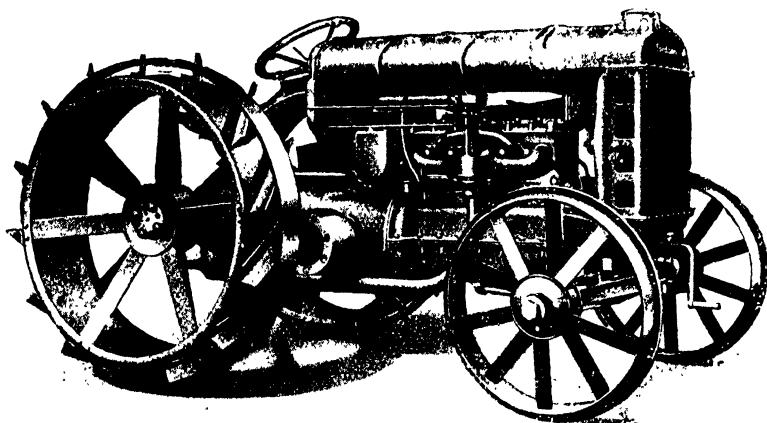


Fig. 52.—*Fordson Tractor.*

ground with ease. The rear axles are supported on ball bearings at the inner ends, and on Hyatt roller bearings at the ends adjacent to the rear wheels.

The power is transmitted through a multiple steel-disc clutch, running in oil, to the change speed gear-box, the final drive being by steel worm and phosphor bronze worm-wheel, which carries the bevel pinions of the differential gear. The gears permit of three speeds forward— $1\frac{1}{2}$ ,  $2\frac{1}{2}$ , and  $6\frac{1}{2}$  m.p.h., and a reverse speed of  $2\frac{1}{4}$  m.p.h. All the gears run in oil, and the transmission shafts are supported on ball bearings.

The power unit consists of a four-cylinder vertical engine, the upper part of the crank case and the cylinder body being cast in one piece; the cylinder head is detachable for cleaning purposes, &c. The engine, which has a cylinder diameter

of 4" with a piston stroke of 5", develops 20 B.H.-P. at 1000 revolutions per minute. The crank-case is easily removed, permitting access to the lower part of the engine without taking down the tractor. The lubrication is by the "splash" system. Ignition is by a magneto of special design, built in and forming part of the motor. The cooling is by the thermosyphon system, the water-jackets and radiator being of ample capacity, and the latter is mounted on an extension of the crank-case.

The engine is normally run on paraffin, petrol being used for starting; the vaporiser is of special design. The air, before mixing with the paraffin vapour, is drawn through water to remove all dust, &c.

For driving stationary machinery a belt pulley is provided, 9½" in diameter and 6½" wide, with a speed of 1000 revolutions per minute; it is mounted on the off-side of the tractor, the belt passing forward over the front axle. The belt pulley is driven direct from the engine through the clutch and a spiral bevel gear.

The wheels have steel spokes cast in the hub and riveted to the rims. The rear wheels are 42" in diameter and 12" wide; these wheels can be quickly removed by withdrawing a taper bushing from the hub. The front wheels are 27" in diameter and 5¼" wide, the wheel base being 63", and the tread between the wheels is 38".

Steering is by bevel pinion and sector, and all the controls are within easy reach of the driver.

The over-all length and width of the tractor is 90" and 62" respectively.

This tractor is designed on very simple lines, and special attention appears to have been given to providing means whereby any part can be dismantled without undue interference with adjacent parts.

#### *Committee's Report.*

Two Fordson tractors were shown, drawing Oliver ploughs, one a single-furrow and one 2 furrows, on stubble, and both with 2 furrows on lea. This is a good light tractor, weighing only 21½ cwt. It did its work in a satisfactory manner. It is easily driven and readily turned at the headlands. On account of its comparatively low weight the Committee regard this tractor as well suited for lighter spring tillage operations, and for pulling a binder.

At the price, £120, this tractor appears to be extraordinary good value. It has to be noted, however, that the engine is not governed, and, unless fitted with a governor, it is unsuitable for driving stationary machinery such as a threshing-mill.

The GLASGOW TRACTOR, manufactured by Wallace (Glasgow) Limited, 34 Paton Street, Glasgow. Weight, complete, 36 cwt. Price, £375.

The Glasgow is a three-wheeled tractor, and is unique in respect that it has a positive drive on the three wheels, resulting in a maximum grip of the land, and a large drawbar pull ; in this respect it is no doubt superior to other tractors of the same weight. The tractor is so designed that when in motion the weight is equally distributed between the three wheels, and the position of the centre of gravity is low. Operating with two front wheels and one rear wheel, the driving torque causes all the wheels to press into the ground as the pull increases, equally and evenly, thus tending to prevent slipping, skidding, and rearing, or a possibility of overturning.

The body of the tractor is made up of three strong semi-steel castings bolted together forming the crank-case, and enclosing the whole of the transmission gearing. The body is centrally pivoted on the front axle, to which a tilting device is attached, and operated by a hand wheel, for the purpose of maintaining the engine unit in an upright position. The rear wheel has a rim of concave section, which stabilises the structure, and, in combination with the two front wheels, gives a three-point contact with the ground.

The power is transmitted through a Ferodo-lined cone clutch to the change speed gear-box, which provides for two speeds forward of  $2\frac{1}{2}$  and 5 miles per hour, and a reverse of  $2\frac{3}{4}$  miles per hour, the final drive being by cardan shaft and bevel gearing to the front and back axles. The gears are completely enclosed, and run in an oil bath. Instead of the usual differential gear, a patented compensating ratchet device is fitted in the front wheel hub so as to give the required freedom for turning. The wheel describing the largest radius over-running on the ratchet leaves the other two, which describe similar arcs to exert the power for turning ; by this method none of the power is lost, and the outside wheel acts simply as an ordinary steering-wheel. When driving forward the front wheels are "locked," so that skidding of the land wheel becomes impossible, and the tractor is enabled to plough a straight furrow without the watchful attention of the driver.

The wheels are 39" in diameter, and are pressed out of solid steel discs, the width of the front and rear wheels being 8" and 12" respectively. The convex section given to the front wheel rims prevents the soil from adhering to them, and the furrow-wheel when tilted bears evenly on its rounded face. The rear wheel is provided with a scraper which keeps it constantly clean, thus giving the spuds full effect ; the spuds are designed to enter and leave the ground without taking up

the soil or cutting the land in such a way as to prevent the furrow slice from turning over evenly and unbroken.

The drawbar has lateral adjustment, which is operated by a lever at the driver's seat while the tractor is in motion, whereby any error that may occur in side draught can be corrected; this applies particularly to work on hillside ploughing across the slope.

The power is obtained from a four-cylinder vertical engine,  $4\frac{1}{8}$ " bore by  $5\frac{1}{4}$ " stroke, developing 27 B.H.-P. at a normal speed of 1000 revolutions per minute; the cylinders are in pairs, with ample space for the cooling water, which is circulated on the "thermo-syphon" system. A Zephyr carburetter is fitted, and the engine can run on either petrol or paraffin. Ignition is by high-tension magneto. The lubrication

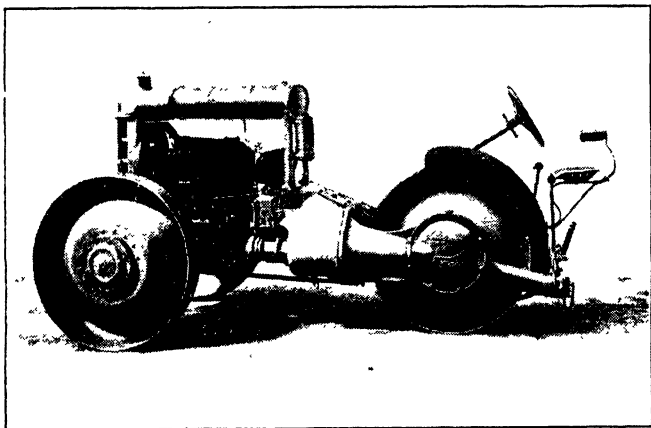


Fig. 53.—(*Glasgow Tractor.*

system is of the combined forced feed and splash type. The speed of the engine is controlled by a Pierce type governor. The fuel and water-tanks are situated immediately above the engine.

A belt pulley, 9" in diameter by  $4\frac{1}{8}$ " wide, for driving stationary machinery, is situated on the off-side of the tractor, and is driven from the engine shaft through bevel gearing; it will transmit 25 B.H.-P. at a speed of 1000 revolutions per minute.

An internal expanding brake is fitted to the transmission gear inside the gear-box.

Skefko self-aligning double ball-bearings are fitted throughout.

All the controls are within easy reach of the driver, whose seat is placed in such a position that he has a clear view of the furrow in front; a self-lift plough can be operated by means of a foot lever.

The over-all dimensions of the tractor are 11' by 5', with a wheel base of 75".

This tractor is of original design, which combines strength with simplicity of construction, and the three-wheel drive enables a maximum grip on the land to be obtained.

#### *Committee's Report.*

This tractor is 27 H.-P., and weighs 36 cwt. Two were entered for the demonstration. It is a three-wheel tractor, the single wheel being in the rear, and a special point is that all three wheels are driven. This gives increased driving grip, and makes it specially suitable for use on gradients, and for all kinds of cultivating operations.

This tractor was demonstrated pulling both Oliver 3-furrow and Morton 2-furrow ploughs, cultivating stubble with Morton and Nicholson 9-tine cultivators, and cross-harrowing on newly-ploughed land with a Nicholson self-cleaning harrow. It possesses ample power for all these operations, and the working parts, while being easily accessible, are well protected, the general design of the tractor being on simple lines.

Owing to its greater length, this tractor requires more room on the headlands than some others. This may be an objection in working on small areas.

The HART-PARR TRACTOR, manufactured by The Hart-Parr Company, Charles City, Iowa, U.S.A., and exhibited by The British Hart-Parr Company, 93 Lincoln Road, Peterborough.

The following table gives the principal data in connection with the tractors (two 20-H.P. and one 30-H.P.) exhibited at the Demonstration :—

Rated B.H.-P.	20	30
Weight, cwt.	32	43
Price	£235	£295
Number of cylinders	2	2
Cylinder diameter, inches	5½	6½
Piston stroke, inches	6½	7
Engine speed, R.P.M.	800	750
Belt pulley, diameter, inches	13	18
Belt pulley, width, inches	6½	8
Speed of belt pulley, R.P.M.	800	750
Driving wheels, diameter, inches	46	52
Driving wheels, width, inches	10	10
Front wheels, diameter, inches	28	28
Front wheels, width, inches	5	5
Forward speeds, M.P.H.	2 and 3	2 and 3
Over-all length, inches	120	141
Over-all width, inches	66	76
Width over-all of driving wheels, inches	62	72

The Hart-Parr is a tractor of the four-wheeled type, the drive being transmitted to the rear wheels. The engine, gear-box, differential shaft, and back axle are all mounted on a strongly designed one-piece cast steel frame, which ensures perfect alignment of all parts.

The power unit consists of a twin-cylinder, horizontal, valve-in-head engine, with its crank-shaft set parallel to the rear axle. The engine is perfectly balanced by a system of outside counter-weights, and the crank-case is very accessible, so that all necessary adjustments can be easily effected.

The power is transmitted from the engine through an easily adjustable contracting band clutch in the fly-wheel to the change speed mechanism, which is of the selective sliding-gear



Fig. 54.—*Hart-Parr Tractor, 30 H.-P.*

type, giving two speeds forward and a reverse; the final drive is by bull pinions to internal gear rings attached to the rear wheel rims. A bevel gear type differential is mounted on a shaft, which is continuous from one bull pignon drive to the other; this shaft is carried on large S.K.F. ball-bearings at either end, and can be removed without taking off the driving wheel. Hyatt roller bearings are used on the intermediate shaft in the change speed gear-box, and S.K.F. ball-bearings on each end of the engine extension shaft. All the gears are enclosed in dust-proof casings, and run in oil.

A mechanical force-feed system of lubrication is adopted, which delivers a constant supply of oil to the bearings and pistons.

The engine is provided with large water-jackets, and the radiator is of the honeycomb type, the necessary circulation

being obtained by means of a shaft-driven centrifugal pump. A high-speed shaft-driven fan forces air through the radiator from the rear; this arrangement takes away the heat and odours from the driver, and prevents the radiator from becoming clogged up with dust, &c. The fan and pump shafts are fitted with S.K.F. ball-bearings.

The fuel is gravity-fed from a tank immediately behind the radiator to a carburetter, which is provided with a "shunt" arrangement. At full load, the cooled mixture passes direct to the cylinders from the carburetter, but for light loads the mixture is diverted by means of a butterfly valve placed in the main induction pipe to an exhaust-heated chamber in the manifold before entering the cylinders. This arrangement automatically regulates, through the governor, the fuel mixture to the load, and enables the engine to run smoothly and flexibly at all loads.

The speed of the engine is controlled by an efficient governor, which operates on the throttle valve in the induction pipe.

The engine is designed to run on paraffin, starting with petrol.

Ignition is by a high-tension magneto with impulse starter coupling.

The belt pulley is placed on the near side of the tractor, and is clutch-connected to the engine shaft; it is easily controlled, and is provided with a brake.

The steering is of the ordinary automobile type through a worm and sector.

The Hart-Parr tractor is built on substantial lines, and should be capable of standing a considerable amount of hard work. The power unit is simple, very accessible, and automatically adapts itself to variations of load. It should be economical as regards fuel and oil consumption.

### *Committee's Report.*

Two Hart-Parr tractors took part in the demonstration, these being 20 H.-P., and weighing 32 cwt. One was operating a Sellar 2-furrow plough, and the other a 2-furrow Martin plough. They appeared to have ample power for the work, and also for cultivating stubble with a Ransome solid-tine cultivator. They were also shown operating Wood's spring-tooth and disc harrows. All these operations were performed in a satisfactory manner.

A 30 H.-P. Hart-Parr tractor, weighing 43 cwt., was also shown, drawing a Ransome 3-furrow plough, and cultivating with a Martin 11-tine cultivator. It had ample power for this work. The system of drive by pinion engaging with an exposed toothed ring on the driving wheel, and the extended strakes on the driving wheels, did not appear to the Committee to be desirable.



The INTERNATIONAL JUNIOR TRACTOR, exhibited by International Harvester Company of Great Britain, Limited, 80 Finsbury Pavement, London, E.C. 2. Weight, 35 cwt. Price, £250.

The International Junior is a four-wheeled tractor, with roller-chain drive to each of the rear wheels. The main frame is of substantial construction, and is made up of channel section steel.

The power unit is a four-cylinder overhead-valve vertical engine,  $4\frac{1}{4}$ " bore by 5" stroke, with a normal speed of 1000 revolutions per minute, the rated B.H.-P. being 28.9. The cylinders are cast together, and fitted with removable sleeves of close-grained grey iron. The crank-shaft is of ample dimensions, and the bearings are lined with Babbitt metal backed with bronze. The engine is completely enclosed, and is on three-point suspension. Helical cut gears are used in connection with the valve-operating mechanism, and for the fan drive.

The fuel is fed by gravity, from a tank placed behind the radiator, to an efficient paraffin carburetter of simple type, and the intake is provided with an air heater which is cast integral with the manifold; a water air-strainer is supplied to prevent dust, &c., from entering the cylinders. The engine is fitted with a centrifugal governor, which regulates the fuel to the load by controlling a butterfly valve in the carburetter. The engine is designed to work on paraffin, petrol being used for starting.

Ignition is by high-tension magneto with impulse starter, located in front of the engine, and is dust and water-proof.

The cooling water is circulated on the thermo-syphon system through the cylinder jackets and radiator, the latter being placed behind the engine.

The power is transmitted through a multiple dry-disc clutch, enclosed in a dust-proof case, and bevel gearing to a primary shaft, and thence to a secondary shaft, which incorporates the differential gear. The gear-box provides for three speeds forward ( $1\frac{1}{2}$ ,  $2\frac{1}{2}$ , and 4 miles per hour) and a reverse. The final drive is by roller-chain to each of the rear wheels, which are mounted on a fixed axle. The whole of the transmission is enclosed and runs in oil. The rear wheel hubs run on Hyatt roller bearings, and the wheels are easily removed without disturbing the driving mechanism. The transmission shafts are carried on Hyatt roller bearings.

A belt pulley,  $12\frac{1}{2}$ " in diameter by  $8\frac{1}{2}$ " wide, with a speed of 630 revolutions per minute, is situated on the off-side of the tractor; it is gear-driven, and controlled by the same clutch that connects the engine with the transmission.

The working parts are lubricated by a combination of a force-feed and splash system of oiling.

The tractor is spring-mounted both front and rear, and the front axle is centrally pivoted, the steering mechanism being of the automobile type. The drawbar is vertically and horizontally adjustable.

The driving and front wheels are 40" and 32" in diameter, and 10" and 4" in width respectively.

The over-all dimensions are 132" by 64", with a wheel base of 85".

The International Junior is a well-designed tractor, in which strength and reliability are combined in a judicious manner.



Fig. 55.—*International Junior Tractor.*

The situation of the radiator renders the engine, &c., very accessible. It appears to be easily operated, and any necessary replacements can be made readily.

#### *Committee's Report.*

Two of these tractors were entered for demonstration. It is a medium weight tractor, weighing 35 cwt., and was shown pulling a 2-furrow plough on stubble and a 3-furrow on lea. It had ample power for this work, all of which it performed in a highly efficient manner. It gave an impression of steadiness and uniformity of movement while working, which appears to be desirable. It is easily controlled and operated, and the working parts, which are well protected, are readily accessible.

The **SIMAR ROTARY SOIL-TILLER AND CULTIVATOR** (Concessionaires—Piccard-Pictet & Company, 58 Compton Street, Goswell Road, London, E.C. 1), exhibited by B. H. Brown, Kenton Bank Foot, Newcastle-on-Tyne.

The table below gives the leading particulars of the two tillers working at the Demonstration :—

Description.	Simar No. 25.	Simar No. 8.
Rated B.H.-P. . . . .	25	6-8
Weight, cwt.s. . . . .	28	7
Price . . . . .	£480	£220
Type of engine . . . . .	M.A.G.	M.A.G.V.
Cylinders . . . . .	4	2
Cylinder diameter, inches . . . . .	3.54	3.23
Piston stroke, inches . . . . .	6.10	3.70
Speed of engine, R.P.M. . . . .	1000	1000-1400
Forward speeds, M.P.H. . . . .	1, 1.5, and 2.4	1.5 and 2.5
Reverse speed, M.P.H. . . . .	1	
Diameter of land wheels (2), inches . . . . .	48	18
Width of land wheels, inches . . . . .	10	
Wheel base, inches . . . . .	84	
Over-all width of tractor, ins. . . . .	42	28
Width of " Miller " track, ins. . . . .	51	22 and 28
Depth of tilth, inches . . . . .	2 to 12	1 to 10
Speed of " Miller," R.P.M. . . . .	150 and 200	150
Turning radius, feet . . . . .	7	

The following description deals more especially with the Simar No. 25, which is the type adapted for work on an ordinary farm.

The Simar is a machine which, in one operation, reduces the soil into a condition ready for the reception of seed. It consists of a three-wheeled tractor, the principal function of which is to drive a rotary miller situated at the rear of the machine. The tines on the miller, as they enter the soil, exert a forward propelling force, so that the grip of the driving wheels on the land is not so important as in the ordinary type of tractor, which must have sufficient wheel-grip to draw the implement through the soil. Consequently, the possible " panning " effect due to wheel pressure is not likely to occur in the case of the Simar, which furthermore has the advantage that the after action of the miller completely destroys any previous consolidation of the soil.

The motive power is obtained from a vertical engine with four cylinders cast together, which is capable of developing

25 B.H.-P. at a normal speed of 1000 revolutions per minute. The engine is fitted with a Claudel carburetter, and the ignition is by high-tension magneto. The lubrication is by automatic pressure feed, and the cooling water is circulated by means of a centrifugal pump. The power is transmitted from the engine through a cone clutch to the gear-box, which is arranged to give three speeds forward and a reverse to the land wheels, and two speeds to the miller; the final drive to the land wheels is through worm and spur gearing. Steering is by a single spring-mounted front wheel, together with a special lock arrangement for either driving wheel to assist in turning.

The "miller" can be lowered and lifted automatically from



Fig. 56.—*Simar Rotary Tiller.*

the driver's seat, and is connected with the tractor part of the machine by means of a universal joint on the driving shaft enclosed in a spherical torque casing, which is assisted by a system of two vertical and two horizontal spring pistons enabling the miller to yield in all directions—viz., sideways within limits consistent with normal variations of direction, and vertically within limits so as to enable it to negotiate rough ground. The whole of the drive, both for the wheels and the miller, is completely enclosed and works in oil. The miller is balanced by means of a powerful coil spring, so that its weight is not carried entirely on the ground by the miller itself. This prevents, in most cases, breakages when the tines come into contact with heavy stones, when the abnormal effort will tend to lift the miller from the ground.

The "miller" consists of a number of springs fixed on a

drum, which revolves in the same direction as the land wheels. The springs act as handles to the milling tools or tines, in the shape of flexible hooks, which can be fitted on quickly. The tines are thus perfectly elastic in all directions, and can give way sideways or backwards should they come into contact with a hard body; they are self-sharpening, the friction of the soil keeping them pointed by side-wear, and they are so shaped that 4" to 5" may be worn away before requiring to be replaced.

The rotary miller is detachable from the tractor portion, and can be replaced by a mowing machine, harvester, &c., or a belt pulley can be fitted for driving stationary machinery in the usual way.

The Simar No. 8 is similar in general design to the above, but is lighter in construction, and is specially suitable for orchards, nurseries, and market gardens. The machine is provided with two wheels only, and is balanced so as to permit easy turning and guiding; it is fitted with a multi-position steering arm, so that the operator can walk to either side of the work done, or else exactly behind it when necessary.

The Simar tiller is a one-operation soil-preparing machine, combining the work of the plough, harrow, and cultivator. It is easily operated by one man, and is practically self-steering. The general design is on simple lines, all the working parts are readily accessible, and it appears to be strongly constructed, the material and workmanship being of first-class quality throughout. The pushing forward effect of the working tool enables the machine to work on steep gradients.

### *Committee's Report.*

Two of these machines were exhibited, one being 25 H.-P. and weighing 28 cwt., and the other 6/8 H.-P., weighing 7 cwt. These machines are designed to prepare the soil for any crop at a single operation—i.e., to combine the work of ploughing, cultivating, and harrowing. Tried on a field of unbroken stubble, the larger machine was found to thoroughly pulverise the soil to a depth of 8 inches, leaving a fine loose mould 10 inches deep. The working width of this machine is about 4 feet.

It is claimed for the machine that on encountering an earth-fast stone the "miller" automatically rises over it, but the Committee are of opinion that there is always the danger of tines being broken through coming in contact with such obstructions.

A test was also made on a piece of dirty ground, with the machine working to a depth not exceeding 5 inches, when it was found that the "wrack" and surface weeds were effectively thrown out and left clean and on the surface. The machine is very easily turned, as the driving wheels

can be operated independently. The single front wheel facilitates this operation. It was observed that when travelling on the freshly-tilled land the driving wheels did not sink to any extent, this being due to the propelling action of the "miller" in the rear.

This machine was tried on lea, but, although cultivating to the required depth, owing to the fact that much of the turf was broken up and left on the surface, it was considered to be quite unsuitable for this class of work.

After careful deliberation, the Committee have arrived at the opinion that for autumn cultivation in Scotland this implement cannot take the place of the plough. As an implement for spring cultivation, however, the Committee consider this machine to be peculiarly well adapted, and they regard it as a distinct advance on former efforts, as it is capable of performing in one operation what was formerly done at several operations and with the use of several implements. The encouragement of the production of such an implement was one of the main objects the Society had in view in holding the Demonstration.

While holding this view in regard to autumn ploughing, the Committee consider it an exceptionally useful implement for the autumn cleaning of dirty land.

It is claimed for this machine that it is capable of cultivating 1 acre per hour, working across ploughed land; but, from the rate of performance observed at the Demonstration, the Committee are of opinion that the amount which could be cultivated on unbroken stubble would be very much less.

The Committee had no opportunity of forming any useful opinion as to the cost of maintenance and durability of the machine.

The smaller machine is on similar lines to the larger, but is more adapted for smaller areas and market gardens. Its working depth appeared to be about 5 inches or 6 inches. The steering handle can be readily altered to allow the operator to walk on the uncultivated ground, at either side of the machine, so that none of the tilled soil is trampled upon. The Committee regard it as a useful implement for the work indicated.

The Committee consider that the price of these machines is likely seriously to limit their adoption by farmers and market-gardeners at the present time.

## IMPLEMENTS.

HENRY ALEXANDER & COMPANY, Nottingham Place,  
Edinburgh.

Oliver No. 7 2-furrow 10" to 12" adjustable plough.  
Price £35.

This plough is constructed on strong and rigid lines without unnecessary weight. The beams are made from steel bars bent downwards at the back to form standards to which the plough bodies are attached. Means are provided for adjusting the width of the furrow slice. Two wheels only are fitted to the plough, rendering it easy to back.

The plough is provided with a power lift, which is simple and effective in action. The operating levers are placed within easy reach, the depth being positively controlled from the tractor seat. It is fitted with combined swivel disc and skim coulters.

*(For Committee's Report, see p. 226.)*

ROBERT BEGG & SON, Implement Works, Dalry, Ayrshire.

Double-furrow self-lift tractor plough. Price £37, 10s.

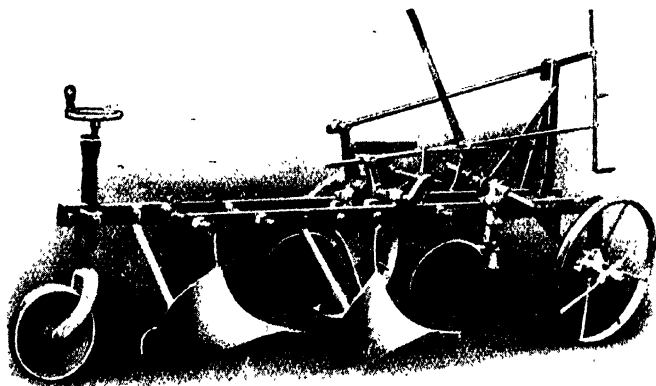


Fig. 57.—Begg self-lift 2-furrow Plough.

This plough is strongly constructed, and is provided with adjustable beams, soft centre steel mould-boards, and swivel

disc coulters. Screw adjustments are fitted to the land and furrow wheels, and the drawbar is also adjustable.

A Ransome self-lifting gear is fitted to the plough, and is driven from the land wheel through pinion and rack gearing.

Arrangements are provided for varying the width and depth of the furrow.

### *Committee's Report.*

A well-constructed, easily adjustable plough, readily adapted for either stubble or lea, and suited for all classes of soil. It did good work both on stubble and lea, and the plots ploughed by it were considered to be amongst the best on the ground.

J. I. CASE THRESHING MACHINE COMPANY, 134 King Street, Hammersmith, London, W. 6.

Cockshutt self-lift 3/4-furrow tractor plough. (Sole Distributors in this country—R. A. Lister & Co., Ltd., Dursley, Gloucester.)

The general arrangement and design will be readily understood by an examination of the accompanying illustration of a 2-furrow Cockshutt self-lift light tractor plough. The frame is strongly constructed of "I" section steel bars, rigidly braced together, the beams being high and well arched so as to give ample clearance space. The plough bodies are carried by cast-steel standards bolted to the beams, provision being made, by means of adjusting blocks, for varying the width of the furrow slice.

The power for raising and lowering the plough is supplied by the land wheel, which is connected by chain gearing to a sprocket wheel mounted on a secondary shaft, and controlled by a double-action clutch. One pull of the operating cord releases the clutch dog and allows it to engage a ratchet device in the sprocket wheel, so that one half-turn of the clutch raises or lowers the plough bodies as the case may be. When either of these operations is complete, the clutch dog is automatically released, and is ready for the next pull of the cord. When the plough is in a raised position, all the bodies are at the same level, and there is ample clearance underneath. Combined swivel disc and skim coulters are provided.

The leading wheel is "staggered" so as to enable it to run in the corner of the furrow, thereby insuring a uniform width of cut and eliminating all possibility of the wheel climbing the furrow wall. The land and furrow wheels are so located that the whole weight of the plough is brought to bear upon



the bodies, thereby forcing them into the ground when starting to cut a furrow.

Levers are provided, within easy reach of the tractor driver, for regulating the depth and for levelling the plough, which may be raised by hand through these levers, powerful tension springs being fitted to both land and furrow axles to render this action easy. A solid pressed steel wheel, also "staggered," is fitted to the rear of the plough.

A tractor hitch is provided, by which adjustments can be made up and down as well as sideways, and the drawbar is

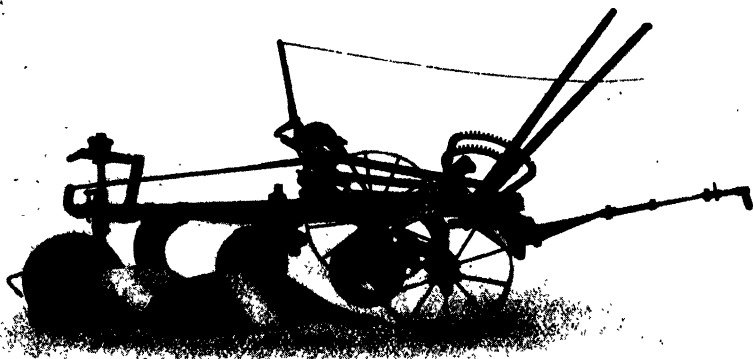


Fig. 58.—Cockshutt self-lift 2-furrow Plough.

fitted with a break pin coupling; the hitch is stiff, thus permitting the plough to be backed.

All working parts are supplied with grease cups, and the furrow wheels are fitted with renewable bearings.

#### *Committee's Report.*

A strongly-constructed plough. It is adjustable, but adjustments are not so easily and quickly effected as is desirable. It did fair work on the stubble, and made rather a better appearance on the lea, although the turf was not sufficiently turned down.

#### **3/4-Furrow Grand Detour self-lift tractor plough (English type).**

The main frame is strongly constructed of straight "I" section high carbon steel beams, with adjustable cross-braces, whereby the width of the furrow slice can be varied from 8" to 12". The plough bodies are connected to the beams by

detachable cast-steel standards provided with a set-screw adjustment, so that more or less suction or penetration may be given to each bottom. The regular equipment includes swivel disc coulters fitted with Hyatt dust-proof roller bearings. The mould-boards are made from high carbon plough steel, and the shares of chilled cast-iron. The front and rear wheels are staggered, and all the wheels are fitted with dust-proof renewable boxes. A spring hitch is furnished, and provides a convenient means, when properly adjusted, of preventing breakage of parts.

The self-lifting gear is worked from the land wheel through a roller clutch with cam and toggle device. A connection

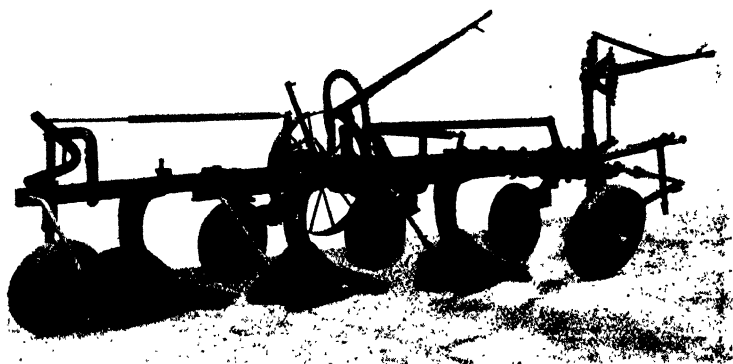


Fig. 59.—Grand Detour self-lift 3-furrow Plough.

between the land-wheel axle and the back wheel serves to raise the rear end of the plough, so that all the bodies when raised are high and level. The gear is operated by a single cord within easy reach of the tractor driver.

A front furrow lever is used when opening up furrows; a land axle lever is provided for adjusting the plough as to depth, and is designed to be operated with ease while the plough is in motion.

The plough can be reduced from a 4-furrow to a 3-furrow (as illustrated) by removing the rear beam and body, and moving the rear wheel attachment to the third beam, also shortening up the lifting link, as provided. It may be converted into a 2-furrow plough by moving the wheel and axle forward 28" and detaching the third body and beam, following the above instructions with reference to the rear wheel attachment.

This plough is in the experimental stage, and some alterations may be made before it is placed on the market. It was not seen at work by the Committee.

HENDERSON BROTHERS, 29 Barnton Street, Stirling.

Massey-Harris 2-furrow adjustable plough. Price £36.

The beams curve downwards at the back ends, which form the standards for the bodies. Adjustability as to furrow width from 8" to 10" is accomplished by making the beam braces in two halves with the inner ends overlapping and provided with holes one inch apart, a malleable casting being used for the rear brace. The above arrangement appears to give rigidity to the frame. Swivel disc coulters are fitted to the plough.

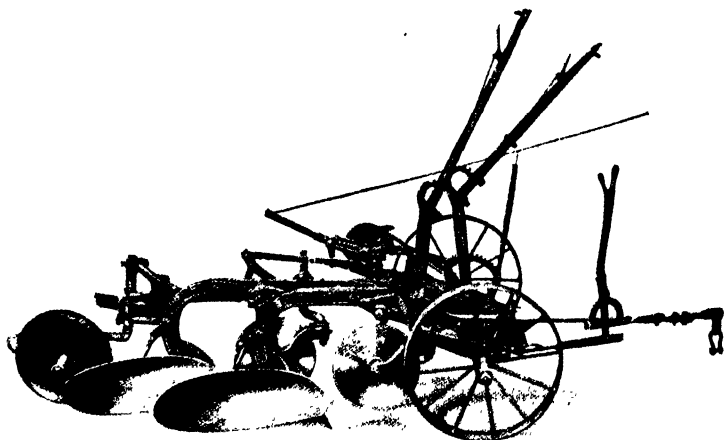


Fig. 60.—*Massey-Harris self-lift 2-furrow Plough.*

The self-lifting gear is driven from the land wheel through a chain and sprocket wheel mechanism, and a quick-acting knuckle connection to the rear axle raises and lowers the back end of the plough simultaneously with the front; all the bodies are at the same level when raised, and there is ample clearance underneath. Powerful lift springs balance the ploughs and assist materially in the raising. The depth levers are made with a central ratchet joint so as to bring them nearer to the tractor driver, and a steering or straightening lever is fitted to the drawbar, which can be moved transversely to hold the plough to its work on side lands or rolling ground, and also for straightening the furrow. The rear wheel is of the disc type, and is adjustable to take the wear of the land sides.

*Committee's Report.*

This plough did fairly good work, but at a proper depth on stubble it appeared to have difficulty in turning the furrow sufficiently to bury the surface vegetation. It is adjustable as regards width of furrow, and consequently is adapted to the varied types of ploughing required in this country.

Massey-Harris 9-tine self-lift cultivator. Price £33.

The main frame is of strong and rigid construction. The self-lift gear is similar to that used on the tractor plough, and is mounted on steel angles, bolted to the main frame;

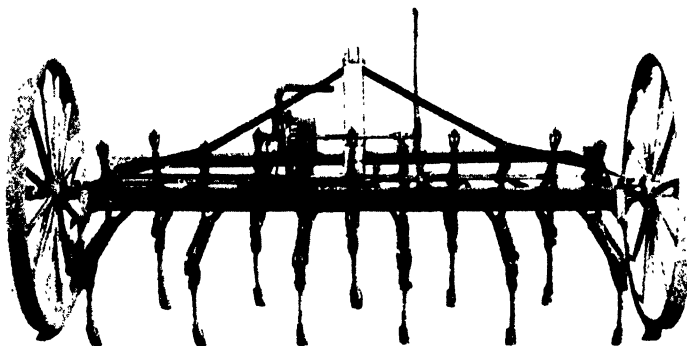


Fig. 61.—*Massey-Harris self-lift Cultivator.*

a shield covers the moving parts of the lift gear, and both wheels are drivers.

Provision is made through a notched ratchet for a wide range of pressures to meet varying soil conditions; when a manipulating lever is moved in either direction, the angle of a pressure shaft is changed, and pressure thereby increased or released as desired. Each tine is flexibly connected to the frame, and is fitted with a safety trip device, which enables it to meet obstructions of the ordinary kind without breakage. A pull of the operating rope raises or lowers the tines through the self-lift gear.

*Committee's Report.*

A 9-tine cultivator with various novel devices. It did its work, cultivating to a depth of 6" to 8", in a thorough manner. There does not appear to be sufficient clearance for satisfactory work on dirty land.

Massey-Harris tandem disc harrow. Price £33, 15s.

This implement consists of an out-throw followed by an in-throw harrow, each being equipped with a separate lever, whereby the angle of cut can be independently regulated by the operator. The arch is made up of heavy angle steel strongly braced from a point well forward on the pole, both arch and braces being reinforced at the points where they meet, forming a well-constructed frame. The gangs are pivoted to the arch in such a manner as to give them ample freedom of movement, so as to conform to uneven surfaces of the ground. A special spring pressure device is fitted whereby the inner ends of the gangs are held in working

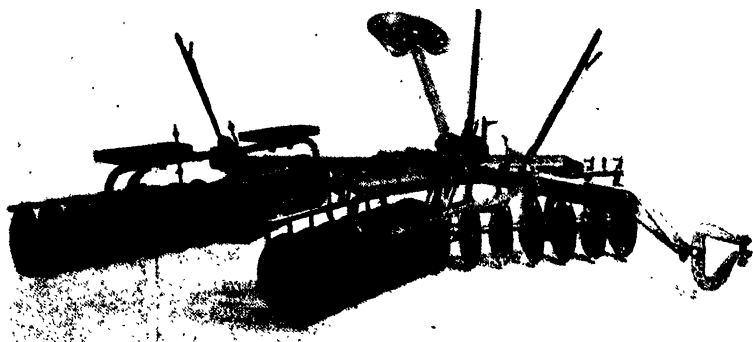


Fig. 62.—*Massey-Harris Disc Harrow.*

position without regard to the condition of the soil or any irregularities of its surface. On rough or uneven ground this spring pressure permits one gang or one end of a gang to rise or pass over an obstruction while the other remains at work. Both the pressures are controlled by the same lever, although quite independent of each other. The discs are fitted with long oil-soaked hard maple bearings and self-closing spring oil-cups. Steel scrapers, controlled by an eccentric foot lever, and rendered flexible by means of coil springs, keep the discs clean. The implement is provided with an adjustable tractor hitch and a set of weight pans.

Massey-Harris spring-tooth harrow. Price £12, 10s.

The frames are made of high carbon steel angles, which are bent up well at the front, and are considerably shorter at

the inner ends than the outer, thereby enabling trash to work back easily under the harrow; the frame sections are flexibly hinged together by high arched malleable couplings, and wear of the sections is prevented by steel runners. Each tooth is fitted with a detachable and reversible hardened steel point. The teeth are crimped just above the reversible points to give additional strength and rigidity; the teeth are adjustable, and can be set to work at different cutting angles with relation to the soil, also in their holders to compensate for wear, or to supplement the range of the levers, which are provided for regulating the depth of work while

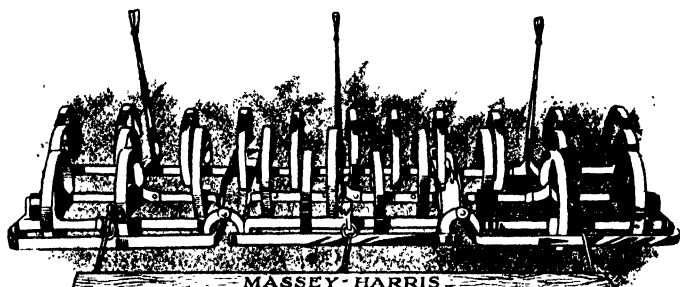


Fig. 63.—*Massey-Harris Spring-tooth Harrow.*

in motion. An adjustable tractor hitch is fitted to the harrow.

(*For Committee's Report, see page 231.*)

#### BLACKSTONE & CO., Limited, Stamford.

Howard 2/3-furrow self-lift tractor plough, made by James & Frederick Howard, Limited, Bedford.

This plough is strongly constructed, the beams being securely braced and riveted together, and the bodies are adjustable for ploughing furrows 9" to 12" wide and up to a depth of 8". The steel mould-boards are of a general purpose type, and are connected to the beams by strong cast-steel frames. Either steel knife or swivel disc coulters are fitted, and there is sufficient space for skim coulters if they are required. The 3-furrow plough is readily convertible into a 2-furrow by removing the hind body.

The self-lift gear is simple and quick in operation, and is actuated from the land wheel. Separate levers are supplied to the land and furrow wheels for depth adjustment. The plough is also fitted with an adjustable draught-bar under the control of the tractor driver.

The accompanying illustration represents a 2-furrow type of plough.

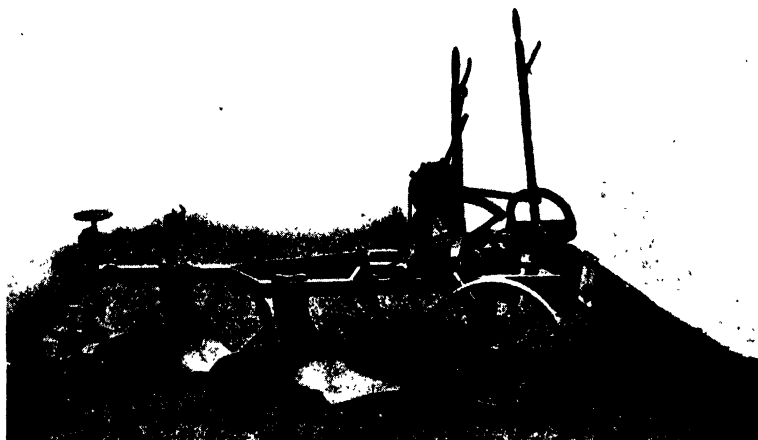


Fig. 64.—Howard self-lift 2-furrow Plough.

#### *Committee's Report.*

Owing to the absence of the firm's expert, this plough did not receive the necessary attention and adjustment, and the small amount of work it performed suffered in consequence.

INTERNATIONAL HARVESTER COMPANY OF GREAT  
BRITAIN, Limited, 80 Finsbury Pavement, London,  
E.C. 2.

International self-lift 2-furrow plough. Price £31.

International self-lift 3-furrow plough. Price £36.

Carriage paid. Less 5 per cent for cash.

The plough is constructed of steel bars strongly braced together, and bent downwards at the rear ends to form the frames or supports for the bodies. The mould-boards are braced at two points, and made adjustable so that the set of the ploughs can be altered to suit varying soil conditions; the shares are slip-on, being held in place by a peg. The

plough is easily converted from a 3-furrow to a 2-furrow, and is fitted with combined disc and skim coulters.

The self-lifting arrangement operates front and rear, and gives an almost perpendicular lift when leaving the ground. The rear wheel lift is so constructed that the points of the plough bodies raise in advance of the back end of the land-slide, and the lifting mechanism is so designed that the rear wheel holds the back end of the bodies up while the points enter the ground first. When the bodies are fully raised there is ample clearance underneath. The bodies are raised on the rear wheel by a rocker or arm to the same height as the front, causing them to be carried in a level position.

The depth of ploughing is regulated by a lever in connection with the front furrow wheel; this lever, in conjunction with a stop device on the power-lift, enables the operator to control accurately the depth of the furrow turned. Should he forget to trip the power-lift, the bodies can be raised by means of the front-furrow lever. The depth levers are brought forward within easy reach of the tractor driver.

All load on the wheel axles is counterbalanced with powerful tension springs, which assist the power-lift in raising the plough.

The rear wheel is made of solid steel, and its axle is on the furrow side, which enables the smooth side of the wheel to bear against the bank. The furrow wheel is staggered and is adjustable on its axle, so that it can be set to the exact width of the furrow. Long axle boxes with dust-proof bearings are fitted to all the wheels.

The drawbar hitch is reversible, adjustable up and down, and transversely; it is fitted with a wood break pin, which reduces the possibility of damage to the working parts of the plough.

#### *Committee's Report.*

The work of this plough was only fair. On stubble the furrows were not well turned, and the surface was not well turned down; on lea the furrows were not closed. The Committee were not favourably impressed with the work of this plough.

#### ALEXANDER JACK & SONS, Maybole.

Dux 2-furrow self-lift tractor plough. Price £36, 10s.; subsoiling attachment £4 extra.

This plough is constructed on strong and simple lines, and is fitted with combined swivel and skim coulters, also lever-controlled adjustable drawbar and rear-wheel lift. The mould-boards are made with a soft steel centre, the working surface being hard and highly polished. The wheels are of



wrought steel, with convex section tyres, and fitted with renewable dust-proof and oil-retaining bushes.

The self-lift arrangement consists of a toothed rack, which is made to engage with a pinion fixed to the nave of the land wheel. When operated by means of a cord controlled by the tractor driver, the forward motion causes the plough to climb gradually out of work, and it is securely held in its raised position until released.

Adjustments are provided whereby the width of the furrow may be varied from 7" to 12", and a maximum depth of 8" to 9½" can be obtained, all adjustments being conveniently made from the driver's seat. Means are also provided for the

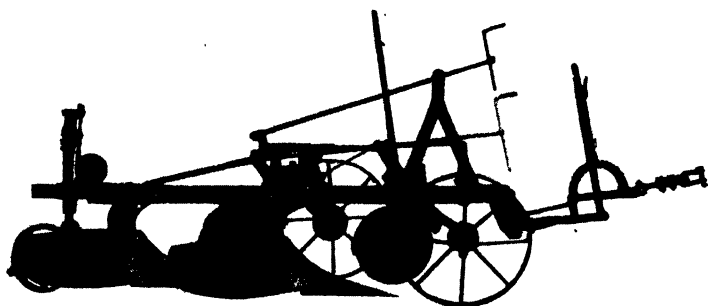


Fig. 65.—*Dux 2-furrow self-lift Plough.*

depth regulation of the furrow wheel, which can be set to "bed" close up to the land side.

#### *Committee's Report.*

The remarks made regarding the Cockshutt plough largely apply to this plough, which is similar in construction. It did fairly good work on the stubble, but on lea the work was not quite so satisfactory.

**MARTIN'S CULTIVATOR COMPANY, Limited, Lincolnshire Iron Works, Stamford, Lines.**

Martin 2/3-furrow self-lift tractor plough. Price of 2-furrow plough, £35, 10s. Extra parts to convert 2-furrow to 3-furrow plough, £7. Set of subsoil tines for 2-furrow plough, £1, 8s. 4d. Set of subsoil tines for 3-furrow plough, £2, 2s. 6d.

This is a strongly-constructed plough, specially designed for tractor work; it is fitted with long general purpose steel

breasts and swivel disc coulters. The self-lift device is worked by an enclosed pawl and ratchet mechanism, driven from the furrow wheel through chain and sprocket gearing. The lift operates on all three wheels, so that the whole plough is raised clear of the ground, and the rear wheel, being a castor wheel, makes it easy to turn.

The bodies are adjustable as to width, and the rear one can be easily removed so as to reduce the size of each plough by one furrow. The pitch of each body can be altered, and the width of furrow varied (by half inches) from 8" to 10", and to a maximum depth of 8" or 9".

The land and furrow wheels are easily and quickly adjusted whilst in motion by separate hand levers placed within convenient reach of the tractor driver; these wheels, which are



Fig. 66.—*Martin self-lift 3-furrow Plough.*

32" in diameter, are fitted with broad wrought-iron rims and spokes, renewable bushes with large bearing surfaces, dust-caps, and lubricators. The rear wheel is automatically locked in a straight line when in work, so that the plough can be easily backed. The drawbar is adjustable by means of a hand lever.

#### *Committee's Report.*

A strongly-built plough, which is adjustable, but the adjustments do not appear to be easily or quickly carried out. The width is varied by the use of packing pieces. It did good work on stubble, but its work on lea was not up to the same standard.

The 2-furrow plough was also shown with subsoil tines fixed behind the mould-boards. These did not appear to break the bottom sufficiently to entitle it to be regarded as an efficient subsoiling implement.

Martin 9-tine self-lift tractor cultivator and 3-furrow ridger. Price of cultivator, £32 ; set of three ridging bodies and markers, £9 extra ; 11-tine self-lift cultivator, £34.

The special feature of this cultivator, which is strongly constructed, is the combination of a rigid curved tine with a horizontal spring and digging action, which tends to keep in the ground at any set depth, while at the same time it vibrates and breaks up and pulverises the soil ; the tines are



Fig. 67.—*Martin Spring-tine Cultivator.*

fitted in strong adjustable steel boxes, which prevent any side movement, and can be quickly adjusted to take up wear. The tapered steel springs distribute the strain and prevent breakages.

The self-lift gear is similar to that used in the Martin tractor plough, already described ; the floating land wheels give a quick and certain lift directly the operating cord is pulled.

The travelling wheels are 32" in diameter, fitted with long renewable bushes and grease lubricators.

The cultivator can be converted into a three-row ridger by replacing the back gang of tines with three ridging bodies and set of markers.

The two outside tines are cranked to take out wheel tracks.

*Committee's Report.*

Two cultivators were shown—a 9-tine and an 11-tine. Both of these implements did very good work, cultivating efficiently to a depth of 6". Having plenty of clearance beneath the frame, they are well suited for working on dirty land.

Martin 10 feet self-lift spring-tine tractor harrow, with 23 tines. Price £28. Can be supplied 12 feet with 29 tines—Price £30. Set of peg tooth harrows to fit same frame, £10 extra.

This machine is specially designed and constructed for tractor haulage. The tapered steel spring tines are bent up

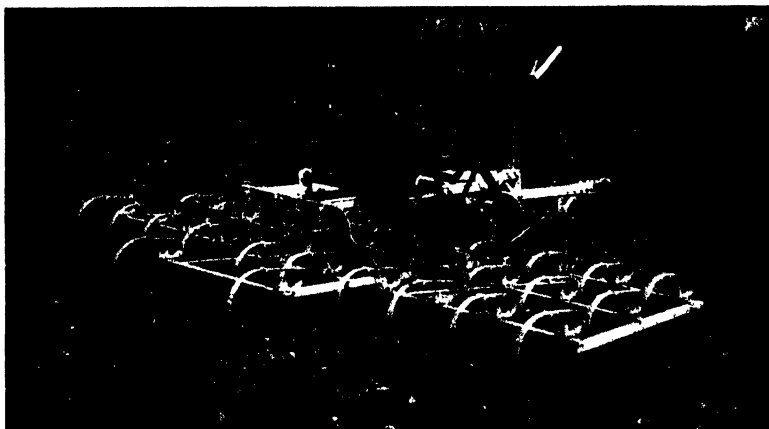


Fig. 68.—*Martin self-lift Spring-tine Harrow.*

to a "U" section at the ends, so as to give greater soil clearance, and are adjustably mounted on three independent steel frames, flexibly connected to the lifting frame. The tines are normally spaced at 5" centres, with ample clearance room between the separate gangs; any number of the tines can be removed, and the remaining ones spaced out equally wider apart to suit special requirements.

The main frame is fitted with an adjustable draught head and the chain-driven positive ratchet self-lifting gear as used in the Martin tractor plough. The lift and fall is operated alternately by one pull of the cord, and the depth of cultivation is easily regulated by a hand lever while the machine is in motion.

The centre harrow is carried by the main frame, and the outside harrows, which fold up for transport, are carried by four arms hinged to the main frame.

The whippetree is carried by a special triangular slinging arrangement, which prevents the harrow running sideways.

*(For Committee's Report, see page 231.)*

**MORTON ENGINEERING COMPANY**, Ladylands, Corstorphine, Edinburgh.

New combined utility implement for general purpose tractor work. Embraces 2-furrow adjustable plough and sub-soiler, 9- or 11-tine cultivator, 9-tine stubble scarifier, 5- or 7-tine grubber.

The main frame consists of two parallel longitudinal bars turned inwards at the front end to take the lift and wheel



Fig. 69.—*Morton self-lift 2-furrow Plough.*

arrangements, and sloping down towards the hitch ; they are also slotted immediately behind the hitch and at the rear to take the transverse members of the frame, which are fixed by bolts into the slots. Two short independent beams, reduced at the ends and screwed, run between the transverse members, and are held in position by clips. This arrangement gives the necessary width adjustment of the ploughs, and is independent of the wheels and lift. A rear furrow castor wheel is attached by means of a screw to the back transverse member, and works in unison with the front wheels for lifting and lowering. The plough standards are fixed to the short independent beams

by means of bolts, the plough-head being fixed to the standard. The plough-head is designed to allow any type of mould-board to be used, while the landslide and stay remain constant; this gives standardisation of plough body parts. The mould-board is designed to suit all classes of work.

*Cultivator.*—To change the plough to a cultivator, the plough standards are removed from the short independent beams, and triangular-shaped extension pieces are fitted to either side of the plough frame, and stayed to the longitudinal bars of the main frame. Three cultivator tines are fixed to each of these triangular pieces by means of stout steel clips, the



Fig. 70.—*Morton self-lift Cultivator, converted from Plough.*

remaining three tines being similarly attached to the main frame. The change can be made quickly and effectively.

*Grubber.*—By fixing suitable feet to the tines and removing the two outside tines, the implement can be converted into a 7-tine grubber.

When used either as a cultivator or a grubber it is adapted to working on side-lying ground, as it can be adjusted for uneven land by means of screws attached to the front of the plough, which operate on the axles. No alteration is required to the rear wheel.

This tractor implement combines the functions of plough, cultivator, grubber, &c., the desired conversion and adjustments being facilitated by the use of a simple and well-designed frame. The plough appears to be designed on correct principles with respect to draught, so that it can respond to adjustment of clevis, as regards width and depth, irrespective of

wheel position. Further, the change over from one type of mould-board to another can be quickly made.

*Committee's Report.*

A new plough, convertible into a grubber or cultivator. It is well designed, simple in construction, and readily adjustable. It did very good work on stubble and excellent work on lea, where its performance reached a very high standard. The Committee are of opinion that a combined implement of this description is a creditable production, and one likely to commend itself to farmers.

A. NEWLANDS & SONS, Limited, St Magdalene Engineering Works, Linlithgow.

Self-lift 7-tine grubber. Price £32.

This implement is constructed on the same principles as the old Scotch parallel frame grubber, but is made specially

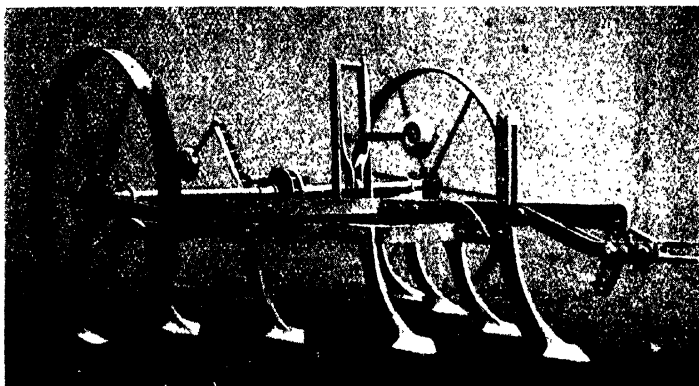


Fig. 71.—*Newlands self-lift Grubber.*

strong for work with a tractor. There are two separate frames; the upper one carries the bearings of the land wheels axle, and is connected to the lower frame, to which the tines are fixed by hinged joints.

The self-lift gear consists of a lantern pinion and steel rack, which can be put in and out of mesh with the pinion. When it is in engagement, the bottom frame and tines are lifted clear of the ground, the rack being put automatically out of gear and at the same time a swinging lever falls into its place, thus maintaining the tines in their raised position. On pulling this lever out, the tines are dropped into work

again, both of these operations being performed by the driver of the tractor by means of a cord.

This implement cultivates to a depth of 12" to 14", and the depth is regulated by a series of holes in two upright bars bolted to the lower frame; the central bar, to which the hitch is attached, passes between these bars, and can be fixed in any desired position by means of a pin placed in a suitable hole.

*Committee's Report.*

A strongly-constructed grubber, 7-tine self-lift, which did its work, breaking up unploughed stubble to a depth of 7" or 8", in a highly efficient manner.

Self-lift 9-tine cultivator. Price £35.

Self-lift 11-tine cultivator. Price £37.

The general construction and the self-lift gear is on similar lines to the grubber, except that a spring frame is used to

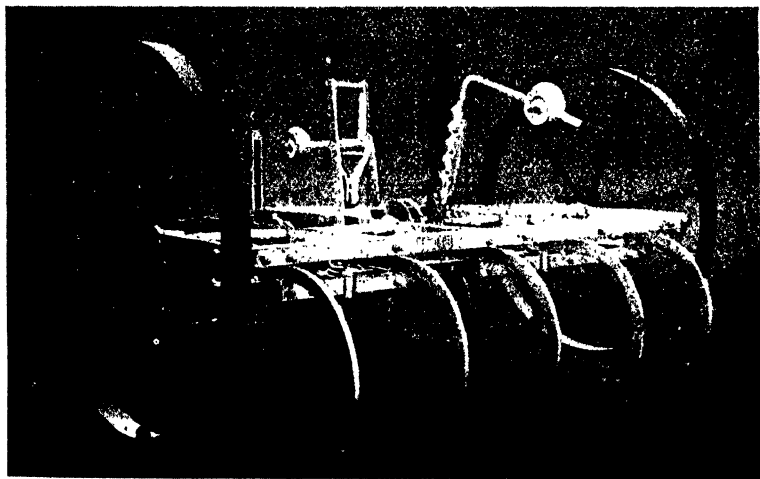


Fig. 72.—Newlands self-lift Cultivator.

hold the tines. The draught being on the upper frame tends to keep the tines into their work, and the implement, which will cultivate to a depth of 10", is so balanced that there is no weight on the tractor.

*Committee's Report.*

Two cultivators were shown—a 9-tine and an 11-tine.



These implements are strongly constructed on simple lines. The work done by them was highly satisfactory.

Self-lift brake harrow to work in conjunction with cultivator. Price £22.

This implement is on the same lines as the old-fashioned Scotch brake harrow, but is specially designed for tractor work. The harrow is attached to the frame or fore-carriage of a standard Newlands cultivator, with the self-lifting gear, which is operated from one of the land wheels, extended to the rear of the harrow.

The harrow has four cross-bars, each fitted with five curved tines, which are arranged to track independently so as to cover

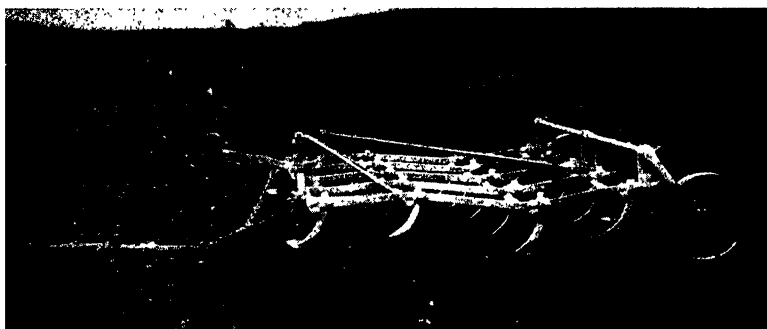


Fig. 73.—*Newlands self-lift Brake Harrow.*

all the ground. The tines are of special curvature with a fastening which ensures the tines always running straight forward, also the "set" is graduated, whereby the first series of tines enters the soil at a slightly less acute pitch and not so deep as the series immediately following; this arrangement tends to keep the harrow level and down to its work.

(*For Committee's Report, see p. 231.*)

W. N. NICHOLSON & SONS, Trent Iron Works, Newark, Notts.

Sherwood Patent Tractor Cultivator, with 9 tines, No. 1 S.R. with tractor hitch (rigid tines). Price £31, 10s.

Sherwood Patent Tractor Cultivator, with 9 tines, No. 1 S.S. with tractor hitch (spring tines). Price £36.

This cultivator is a stiffly-built machine, combining strength with lightness. It is fitted with either rigid or spring tines,

which have a vertical stem with the point curving forwards. The tines are held firmly in clips of special design, which support and strengthen them—no bolts pass through the tines—and they are adjustable vertically in the clips to cultivate to any depth up to 11" for working the ground a second time over; they are mounted on two bars placed an ample distance apart.

The spring-relieved tines are carried in similar clips, which swivel round lubricated and dust-protected pins against spiral springs held on a special pressure bar situated at the head of the tines. The pressure exerted by the springs, which are in

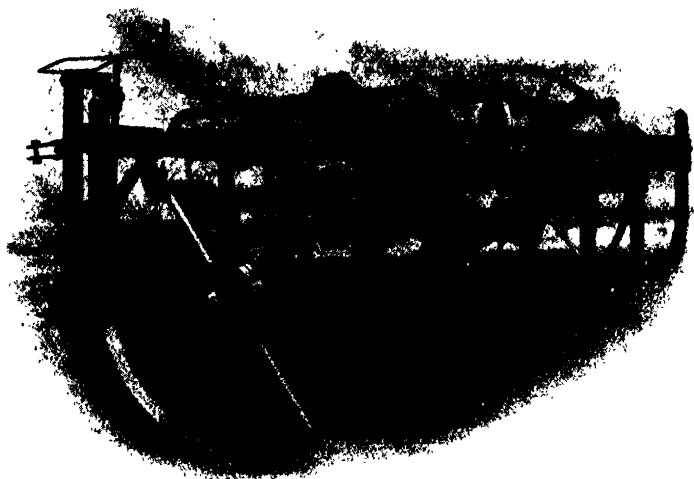


Fig. 74.—*Sherwood rigid-tine Cultivator.*

compression, can be adjusted to suit the ground to be worked or the width of share being used; the springs are so placed as to effectually relieve the tines from sudden shocks.

The share is made with a projecting central rib, which fits in a groove formed in the front of the wedge-section tine, and is held rigidly by means of a protected bolt.

The machine is provided with a simple quick-action self-lift gear, and the depth adjustment is made by lifting a peg from one notch to another in the adjustment rack; the peg has sides of different lengths, each side corresponding to one-third of a notch, and by this means a fine adjustment is obtained with a rack having wide and strong notches. The head of the machine, whether fitted with double castor wheels or tractor hitch, is provided with a double adjustment; the

hitch is adjusted up or down on a vertical bar to suit the height of the tractor drawbar, and the frame of the machine is brought level with the ground by means of a vertical hand screw without disturbing the hitch.

*Committee's Report.*

Two types were shown, a rigid and a spring-tine, both with 9 tines. These cultivators are well and strongly constructed, and did their work in a manner worthy of commendation.

No. 3 T. Harrows, with patent self-cleaning gear, automatic tripping gear, and transport carriage. Price £33. The No. 4 T. set, covering 11' wide, was shown at the Demonstration.

The self-cleaning mechanism is added to a standard set of zigzag harrows, which operate in the usual way, and have

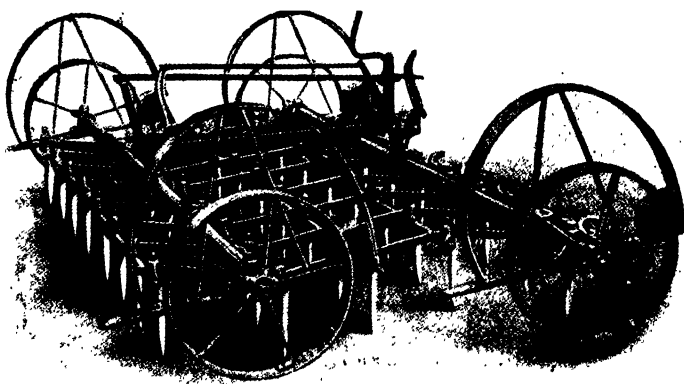


Fig. 75.—*Nicholson's self-lift Harrow.*

the same effect on the ground as though the mechanism was not there. When, however, twitch and rubbish are collected by the teeth, they can be cleared by the tractor driver without difficulty. The mechanism is thrown into gear by means of a cord leading to the driver's hand, which trips the front one of two axles passing across the harrows, and carrying "D"-shaped wheels at their outer ends. As this comes into action, the fronts of the harrows are raised clear of the ground and the rubbish is shaken off the front tines whilst the back tines remain at work; as soon as the front axle has come to rest and the front tines are at work again, the rear axle

is automatically tripped and lifts the back tines from the ground, clearing them of rubbish and allowing the rubbish from the front tines to pass out behind the harrows. Either the front or back tines are always at work, and no ground is missed. When once thrown into gear, the front and back axles continue to operate alternately until the driver pulls a second cord attached to the "stop" lever, which causes them to come to rest and the harrow to run level again. In very rough or dirty ground the harrows can be worked with the self-cleaning gear continuously in operation without spoiling the harrowing effect.

For transport purposes an under-carriage is provided, which enables the tractor driver to take the harrows out to work and bring them back again without assistance.

The weight of the self-cleaning apparatus is carried independently of the harrows on its own travelling wheels, and does not therefore affect the working of the harrows by adding anything to their weight.

(*For Committee's Report, see p. 231.*)

RANSOMES, SIMS, & JEFFERIES, Limited, Orwell Works, Ipswich.

The following tractor ploughs took part in the Demonstration :—

Two-furrow self-lift tractor plough, RSLD-BP. Price £39, 18s. 6d.

Two-furrow self-lift tractor plough, RSLD-TCP, with "Kristeel" breasts. Price £39, 12s. 6d.

Three-furrow self-lift tractor plough, RSLM-YL, with "Kristeel" breasts. Price £46, 4s.

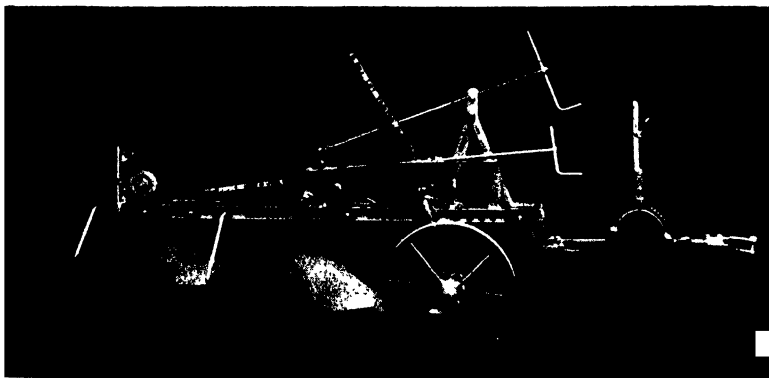


Fig. 76.—*Ransomes self-lift 2-furrow Plough, RSLD-BP.*



Fig. 77.—*Ransomes self-lift 3-furrow Plough, RSLM-YL.*

The above three ploughs are fitted with combined swivel disc and skim coulters, screw depth adjustment to both land and furrow wheels, adjustable drawbar (lever controlled), and automatic rear-wheel lift.

#### SUBSOILING PLOUGHS.

Single-furrow self-lift tractor plough, RSLS-TCP, with solid coulters, skim coulters, and subsoil tine. Price £34, 1s. 6d.

Two-furrow self-lift tractor plough, RSLD-TCP, with "Kristeel" breasts, combined swivel and skim coulters, and subsoil tine in place of front body. Price £39, 12s. 6d.

These ploughs are strongly constructed with steel frames connected by screwed stays. Forged steel heads are bolted to the beams to which the hake is attached. The skifes are malleable, and fitted with adjustment for pitch by means of a top screw. The wheels are of wrought steel with convex section tyres, and fitted with renewable dust-proof and oil-retaining bushes. The depth of both land and furrow wheels is regulated by hand-screws, which are easily accessible from the driver's seat on the tractor.

The self-lift arrangement is operated from the land wheel, and is positive in action. It consists of a toothed rack, which engages with a pinion fixed to the nave of the land wheel. To raise the plough, the driver of the tractor pulls a cord sufficiently to allow the rack to mesh with the pinion, the forward motion causes the plough to climb gradually out of work, and it is securely held in its raised position until released. To lower the plough, the cord is pulled sharply

and let go quickly. When backing the plough, a self-locking arrangement keeps the trailing wheel in alignment.

Adjustments are provided for varying widths, as well as

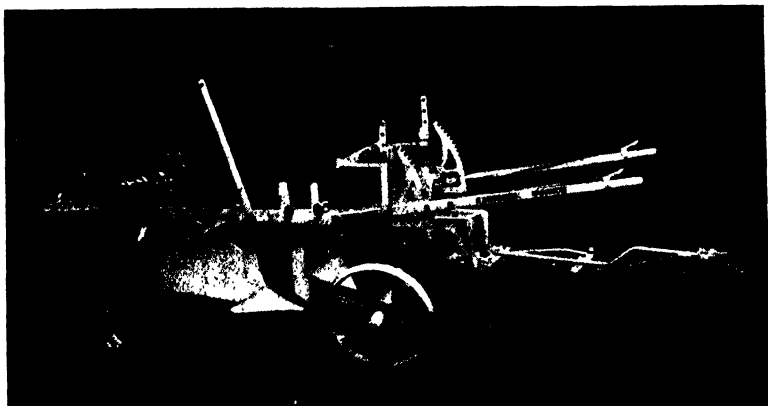


Fig. 78.—*Ransomes self-lift single-furrow sub-soiling Plough, RSLS-TCP.*

depths, of ploughing. The drawbar is adjustable, and is controlled by a lever easily accessible from the driver's seat on the tractor. This arrangement affords ample adjustment



Fig. 79.—*Ransomes self-lift sub-soiling Plough, RSLD-TCP.*

to either land or furrow side, and enables the front furrow to be cut out completely, if desired, when in motion.

The single-furrow plough is made in two forms, one of which is fitted with a special body capable of ploughing to a depth of 16".

At the Demonstration it was fitted with a body for ploughing to a depth of 10", and a steel subsoiling tine was attached to the beam at the rear of the frame, the ground being worked to a further depth of 6" to 8". Independent levers are provided to the land and furrow wheels for regulating the depth. The self-lift arrangement is similar to that already described. The plough has a self-steering arrangement enabling it to be turned in a short compass, and the drawbar accommodates the tractor running either on the land or in the furrow.

Another type, RSLD-TCP, is the same in all respects to the ploughs described previously, with the exception that the front body is replaced by a single tine capable of subsoiling to a depth of 6" below the bottom of the furrow last opened out. The attachment consists of a steel tine with a cast cutter and chilled point connected to a bracket on the beam by a chain attached to it at its lower end. A strap connects the tine with an arm attached to the axle of the front furrow wheel, which raises the tine from, and forces it into, the work. When out of work the tine is raised clear of the ground. The "pitch" of the tine can be varied by altering the length of the chain. The working position of the tine is practically in the centre of the open furrow. This attachment can be fitted to Ransomes two-furrow self-lift tractor ploughs.

### *Committee's Report.*

A variety of types of Ransome ploughs were exhibited, including single-furrow, 2-furrow, and 3-furrow. These were fitted with different types of mould-board suitable for both lea and stubble ploughing, and also with ordinary shares, and shares fitted with moveable bar points. The work of these ploughs was generally very good. These ploughs all possess adjustability in a high degree, and, on the whole, the plots ploughed by them were amongst the best on the ground.

A single-furrow plough with subsoil tine fixed behind the mould-board, and a 2-furrow plough with front body removed and subsoil tine fixed in its place, were also shown. Both did excellent work, ploughing to a depth of 8", and breaking up the subsoil to a further depth of 5" or 6" without mixing it with the surface soil. The Committee consider the plough with subsoiling tine operating in front of the mould-board more suitable for general use, the plough with tine behind being more adapted for deeper cultivation.

## CULTIVATORS.

Dauntless No. 2 self-lift tractor cultivator, with 9 taper spring-mounted steel tines and tractor hake. Price £32.

Dauntless No. 2 self-lift tractor cultivator, with 11 solid spring-mounted steel tines and tractor hake. Price £34.

Dauntless No. 2 self-lift combined cultivator and jointed harrow, with 9 solid spring-mounted steel tines. Price £42.

These machines are exceptionally well braced and of ample

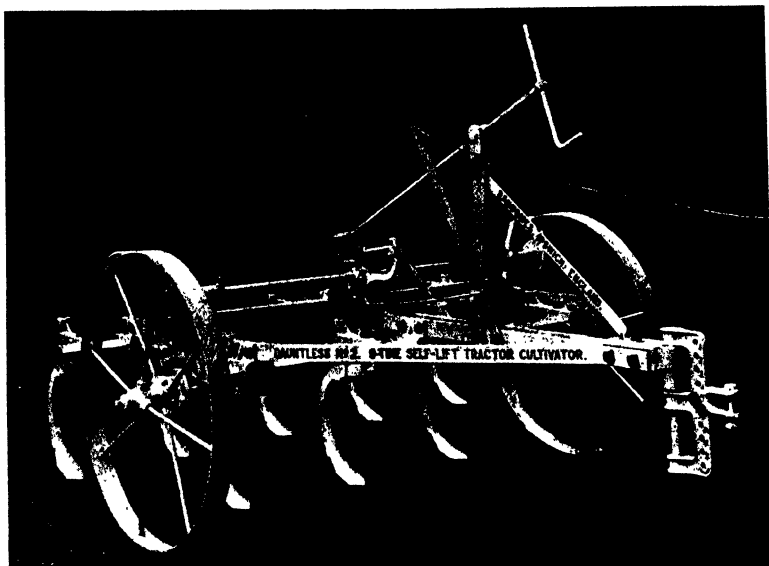


Fig. 80.—*Ransomes 9-tine self-lift Cultivator.*

strength, the frame being so arranged that 9 tines with 9" centres or 11 tines with  $7\frac{1}{2}$ " centres may be fitted.

The tines are of the solid Orwell type, and are spring-mounted so as to ensure freedom and elasticity in work, thereby pulverising the soil and leaving it in a loose and friable state; taper spring steel tines are recommended for rocky land. The tines have renewable points of varying width, all the tines being alike and interchangeable. The wheel tracks are broken up by the two outside tines.

The self-lifting arrangement is operated from the wheels, and consists of toothed racks which engage with pinions fixed to the wheel naves. It is so arranged that either wheel will



lift the machine whilst the other is stationary, as when turning at the headlands. It is operated by means of a cord, which is easily accessible from the driver's seat on the tractor.

An adjustment is provided for regulating the depth by means of a screw, which is within easy reach of the driver of the tractor.

The wheels are strongly made with "staggered" spokes, dust-proof and oil-retaining bushes being fitted.

The attachment to the tractor is by means of a hake, which has ample adjustment to suit any type of tractor.

Number of tines . . . . .	9	11
Distance from centre to centre of tines	9"	7½"
Distance from centre to centre of out-side tines . . . . .	72"	75"
Width cultivated . . . . .	81"	81"
Distance between front and back row of tines . . . . .	32"	32"
Diameter of wheels . . . . .	38"	38"
Nett weight (with tractor hake), lb. .	910	950

#### *Committee's Report.*

Three types of cultivator were shown—i.e., 9-tine solid, 9-tine spring, and 11-tine solid. All these implements did satisfactory work, cultivating on unbroken stubble to a depth of 4" to 6". They have plenty of clearance between front and back rows of tines.

#### SELF-LIFT STUBBLE BREAKER. Price £34.

This implement is for breaking up stubble to a depth of about 4" and putting it into small drills. The bodies are fitted with broad shares 18" or 20" wide, the over-all cutting width being 56". Narrow 4" shares can be fitted when desired.

The self-lifting arrangement is operated from the land wheels, and consists of toothed racks which engage with pinions fixed to the naves of the wheels; the forward motion of the implement causes it to climb gradually out of work, when it is securely held in its raised position until released. It is so arranged that either wheel will lift the machine whilst the other is stationary, as when turning at the headlands.

#### *Committee's Report.*

This implement pares the surface of the ground to a depth of about 3", thus loosening the surface soil and weeds, and leaving the loose soil in low ridges well exposed to the air.

It is doubtful if the conditions in Scotland are favourable to the extensive use of an implement of this kind.

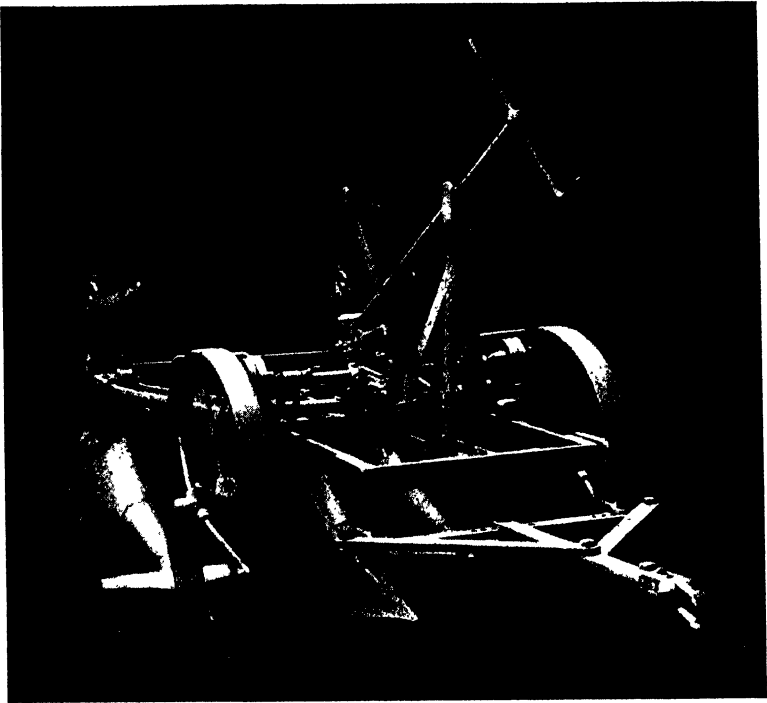


Fig. 81.—*Ransomes self-lift Stubble Breaker.*

**THREE-ROW RIDGER.** Price £19, 15s.

This machine is self-contained and complete for ridging, and has been designed to meet the requirements of large growers of potatoes and roots.

The main frame is made with twin front bars with steel brackets. It is fitted with expanding axles to suit varying widths of drills, and has a range of adjustment from 24" to 30". The bodies are fitted with steel breasts and chilled cast-iron points, the former being adjustable. They are specially constructed, very narrow at the bottom, so that a narrow "sole" is left in the bottom of the drill, suitable for setting seed potatoes.

It is claimed that with this machine eight to nine acres may be accomplished with three horses and one man. Further, it is claimed that the soil in the bottom of the drills is left in a loose condition, and the polished "sole" caused by the friction of the slade of a ridging plough is avoided, drainage

being thereby greatly facilitated. Approximate weight, 5½ cwt.



Fig. 82.—*Ransomes 3-row Ridger.*

**THREE-ROW POTATO COVERER.** Price £22, 10s.

This machine is arranged for covering three rows of potatoes at a time after having been set. It consists of three cone-

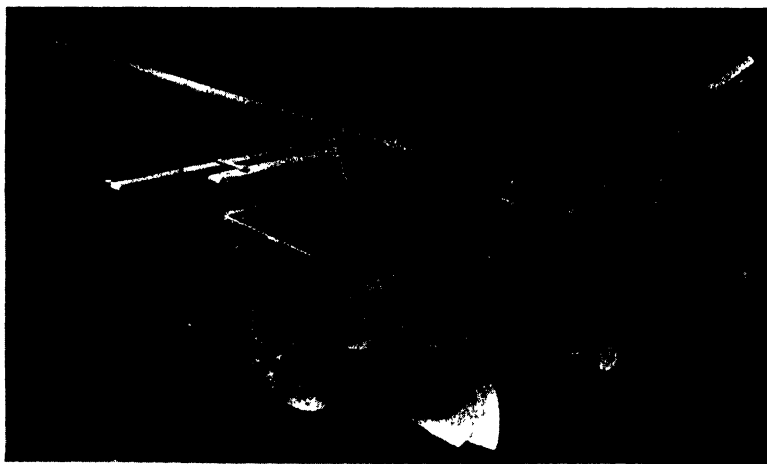


Fig. 83.—*Ransomes 3-row Potato Coverer.*

shaped rollers which travel along the tops of the drills, and are followed by three specially-shaped ridging bodies. An adjustment is provided so that more or less soil can be dis-

tributed over the potatoes, as may be required. The frame is of steel, well braced, and of rigid construction. A range of adjustment is provided to suit ridges from 22" to 30" apart. It is easily worked by two horses.

It is claimed for this implement that it gives an economical method of covering planted potatoes; and further, the bodies are designed to throw the soil lightly over the potatoes, whereby the growth of the plants is facilitated. The rollers being concave in shape and travelling along the tops of the ridges, break up any clods, and thus ensure that the soil turned on to the potatoes is in a fine condition.

#### *Committee's Report.*

A Ransome 3-row ridger and a Ransome 3-row potato coverer were tried on ground which had previously been prepared by the Simar rotary tiller. The conditions were unfavourable, as rain had fallen and the surface soil was wet. In the circumstances, the Committee do not feel justified in expressing an opinion as to the advantages to be derived from the use of these implements. It is claimed for the latter that potatoes covered by it come through the ground considerably earlier than those covered by a plough.

RUSTON & HORNSBY, Limited, Lincoln and Grantham.

#### PLOUGHS.

Self-lift tractor plough, 3-furrow, with fittings for general purpose ploughing. Price £47.

Self-lift tractor plough, general purpose, 2-furrow with front body removed, and sub-soiling attachment substituted. Price £39, 10s.

Self-lift tractor plough, single furrow, deep digger, with detachable sub-soiler to plough up to 15" deep, or to plough and sub-soil together to a depth of 17", specially adapted for potato cultivation. Price £37.

These ploughs are constructed on strong and rigid lines, and appear to be specially suited for heavy work.

The self-lifting gear consists of a connecting rod and crank mechanism operated through a pawl and ratchet wheel device in connection with the land wheel axle, to which a clutch and the land wheel are both keyed. The axle also carries a crank disc, which may be made to revolve with it through the action of the clutch. The upper end of the connecting rod is adjustable, by means of a screw and block, along a horizontal slide bar fixed to brackets bolted to the main

frame. The plough is raised or dropped into work when the crank pin on the disc is in its top or bottom position respectively; the depth of drop is adjustable, and is determined by the position of the connecting rod end on the slide bar. The clutch is made to engage with the crank disc through a spring-actuated plunger under the control of the tractor driver by means of the trip cord. When this plunger is withdrawn, by a pull on the cord, the crank disc becomes locked with the land wheel, and the forward motion of the plough causes the disc to revolve until the crank pin has travelled half a revolution. When it has arrived at this position, the plunger springs into a tapered hole and locks the land wheel arm to the crank disc, the crank pin on the disc holding the end of the connecting rod in the upper position; at the same time the pawls become disengaged from their clutch, thereby releasing the land wheel, which is free to revolve, the crank disc being held in position. In order to drop the plough into its working position, the plunger is withdrawn, and the

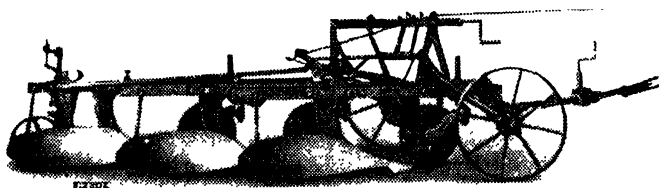


Fig. 84.—*Ruston & Hornsby self-lift 3-furrow Plough.*

above operations are repeated, the crank pin being then locked in its lower position.

A triangular-shaped draught-bar is employed, consisting of three flat pin-jointed bars, the one nearest the plough forming the base, by means of which vertical adjustment is obtained through pins fitting in suitable holes made in two downwardly extending brackets fixed to the members of the plough frame. A second bar, which extends outwards, can be altered as to length by means of a screw operated through gears by a handle, the length of the third bar remaining constant. By thus racking the triangle, a proper alignment of the plough and tractor is obtained while in motion. The pull is taken through a wood safety peg fitted to a projecting end of the third bar. On sidling ground or hillsides, the plough can be kept into its work by altering the angle of draught, and when finishing a field, the front body may be taken out of work if goring is necessary.

The amount of width adjustment provided is from 8" to 10" for general purpose work, and 10" to 12" for digging.

The plough is fitted with swivel disc coulters.

*Committee's Report.*

A good plough, 3-furrow, convertible to 2-furrow, and readily adjustable to varying widths and depths. It did excellent work, both on lea and stubble, and the plots ploughed by it easily ranked amongst the best on the ground.

A 2-furrow plough with front body removed and subsoiling attachment substituted was also shown. This implement did excellent work, ploughing to a depth of 8", and subsoiling to a further depth of 5" or 6".

The deep-digging plough can be set to any depth from zero to 15" by means of screwed adjusting rods, the handles

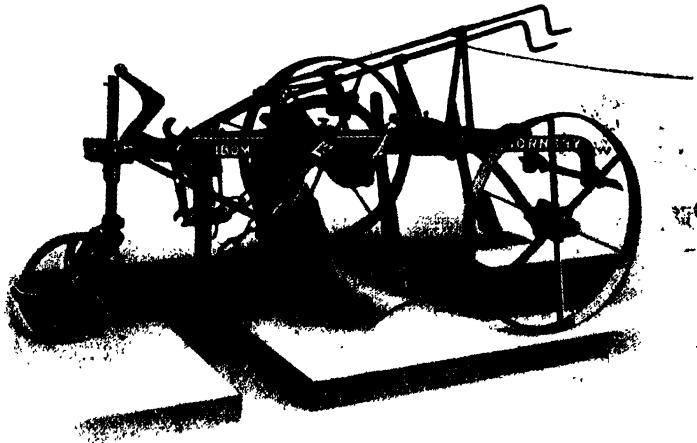


Fig. 85.—Ruston & Hornsby self-lift deep-digging Plough.

of which can be readily manipulated from the tractor driver's seat, no levers being used. The self-lift gear, whilst it permits the plough to attain a depth of 15", will raise it out of work clear of the land for transport purposes. The sub-soiler shank is arranged to lift clear of the ground by motion derived from the self-lifting gear of the plough. Adjustments are provided for pitch and land.

G. SELLAR & SON, Huntly, Aberdeenshire.

Sellar B.D.F. type, 2/3-furrow self-lift tractor plough.

The main frame is of simple construction combined with strength, and is made of best quality Bessemer steel. The plough is fitted with swivel disc coulters, but skim or knife coulters may be used, the frame being of sufficient length to allow of both being used at the same time. The bodies are fitted with movable steel points, soft centre steel shares and mould-boards, the breast straps being chilled castings. The axle-boxes of the land and furrow wheels are dust-proof and oil-retaining. The bodies can be adjusted by means of cross-rungs for widths of ploughing varying from 8" to 12", and



Fig. 86.—*Sellar self-lift 2-furrow Plough.*

the depth is variable from 5" to 11". It is convertible from a 3- to a 2-furrow plough.

*Self-lift Arrangement.*—The wheels are free to turn on axles at the ends of a cranked bar, which is fitted in a bearing on the plough frame, so that the wheels may move in a more or less vertical arc. In order to raise the plough relatively to the axle, the tractor driver pulls a cord attached to the end of a lever device, which causes a toothed quadrant—pivoted to the frame—to engage with the teeth of a pinion fixed to the land wheel; the continued movement of the plough and consequent rotation of the wheel causes the pinion to traverse the quadrant, forcing the wheel downwards, raising the frame, and thus lifting the plough from the ground. It is retained in the fully raised position by means of a pawl on the cranked part of the axle engaging with a detent on the frame. The

quadrant is normally held out of engagement with the pinion by a spring, and is thrown out of engagement against the pressure of the spring. The depth of the furrow is regulated by a lever, and the relation between the "travel" of the land and furrow wheels is determined by a screw.

*Committee's Report.*

A good plough, 3-furrow, convertible to 2-furrow. It is easily and quickly adjustable to varying widths and depths. Its work did not reach the highest standard at the demonstration, the principal objection noted being that it did not sufficiently bury the surface vegetation.

**SELF-LIFT TRACTOR GRUBBER. Price £32.**

The main frame is of box pattern, constructed on strong and rigid lines, Bessemer steel being used throughout. The grubber shown at the Demonstration was provided with 5 tines, but 2 extra tines can be fitted to give a wider implement where conditions are favourable. The tines are so placed and pitched as to reduce choking to a minimum, and they permit of deep work with the frame well clear of the surface of the soil. The tines and tine points are designed not only to loosen the soil, but to throw the subsoil and weeds to the top; a special socket fixture is used, which enables any size of tine point to be fitted quickly. The drawbar is adjustable to suit various lines of draught.

The self-lift arrangement is the same as fitted to the Sellar tractor plough, and has been fully dealt with in that section.

*Committee's Report.*

A well-made powerful 5-tine self-lift grubber, which broke up unploughed stubble to a depth of 7" or 8", and did its work in a first-rate manner.

**WALLACE (GLASGOW) LIMITED, 34 Paton Street, Glasgow.**

Oliver No. 78 3-furrow self-lift tractor plough, 10" wide.  
Price £40.

The main frame of the plough is made up of longitudinal "I" section steel bars, bent downwards at the rear ends, which form the standards or frames to which the bodies are fixed, and it is readily convertible from a 3- to a 2-furrow plough; it is fitted with combined disc and skim coulters.

The self-lifting gear is operated from the front furrow wheel, which drives an eccentric fitted with a pawl and ratchet



wheel, controlled by a double acting clutch. When the clutch is tripped it makes half a revolution, forcing the plough bodies out of the ground high and level. On the trip rope being pulled again, the clutch and eccentric make another half revolution, and as the wheels are forced up by the eccentric, the weight of the wheels and front end of the plough force the forward end down. The lifting device at the rear operates slower than that on the front, consequently the plough bodies enter the ground point first. ■

The hitch is reversible, adjustable up and down, and trans-

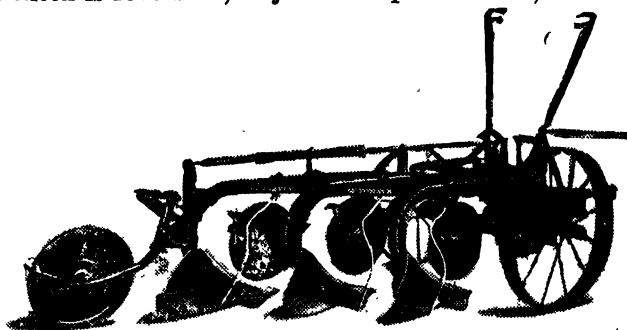


Fig. 87.—*Oliver No. 78 self-lift Plough.*

versely. The operating levers are placed in an easily accessible position.

#### *Committee's Report.*

A strongly-constructed plough. Three types were shown—viz., No. 3, single furrow ; No. 7, two-furrow ; and No. 78, 2-3 furrow. The single-furrow plough turned a strong deep furrow, which might be well suited for potato cultivation. The 2-furrow plough did good work, but was inclined to leave too flat a surface. The 3-furrow plough made very good work, the furrows being uniform, well set up, and the grass and stubble well covered. This latter plough is not adjustable for different widths of furrow, which is regarded as a serious drawback in view of the variety of work required in this country. (*The No. 3 and No. 7 ploughs were exhibited by Henry Alexander & Co.*)

Seven feet "Roderick Lean" automatic tandem disc harrow, 28 discs, 16" diameter. Price £35.

This implement consists of an out-throw followed by an in-throw harrow, with special means for angling the gangs

to any desired point while in motion. The clevis connecting the harrow with the tractor is movable, and the gangs are angled by moving a lever forward and back until the clevis is adjusted. The pull of the tractor will force back the inner end of the front gangs, which in turn force back the frame of the rear gangs, thus angling the rear gangs forward. The amount of angle given to the gangs is regulated by the operator on the tractor, and the gangs are held at any desired point by means of an automatic ratchet. To straighten the gangs for transporting, the operator loosens the trip on the lever,

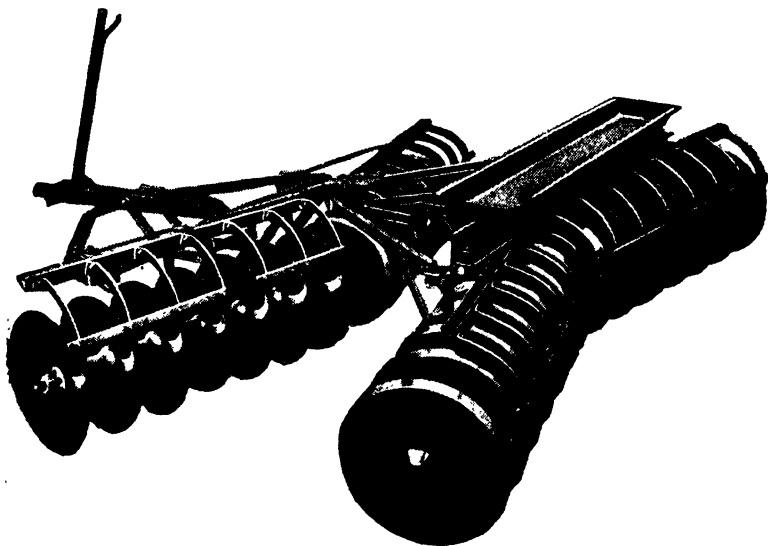


Fig. 88.—*Roderick Lean disc Harrow.*

and the pull of the tractor automatically straightens up the gangs.

The rear harrow is connected with the front by double reach bars, and double draught bars converging from the outer ends of the front gangs pull the rear discs in an effective manner, resulting in a thorough working of all the ground passed over.

The discs are provided with large dust-proof bearing boxes, equipped with oil-soaked hardwood bearings, and fitted with compression grease cups and tubes. Strong steel stationary scrapers are provided for keeping the discs clean, and weight boxes are furnished.

*(For Committee's Report, see p. 231.)*

JOHN WILDER, Yield Hall Foundry, Reading, Berkshire.

Self-cleaning pitch pole drag harrow, working width 8 feet. Fitted either as harrow or drag for use with tractor. Provisional price, with transport, £32.

The frame is made up of strong channel-section steel bars, suitably bracketed and braced together. The harrow or drag tines, in pairs, are carried on four square steel bars, each bar being supported in four bearings by means of bushes with square holes, which fit the bars, the bushes revolving in the bearings, consequently the bars are not reduced in strength.

The automatic tripping gear is arranged along one of the fore and aft channel bars, and is operated by two levers

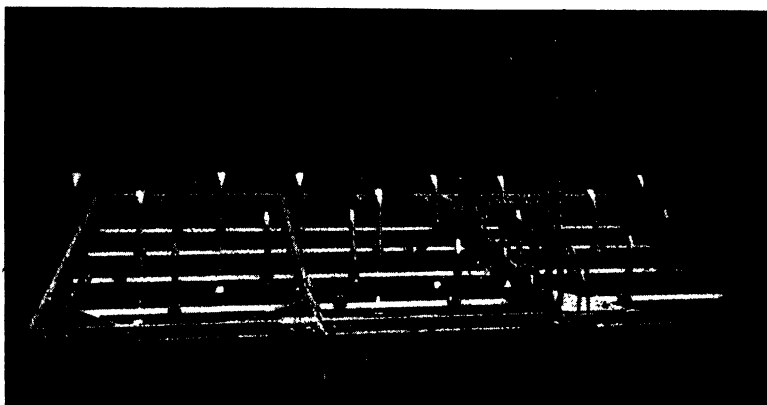


Fig. 89.—Wilder pitch pole drag Harrow.

worked through two cords from the tractor, one turning the first and third row, and the other the second and fourth, which ensures complete clearing without loss of ground. The tripping is effected through a bush with notches on the rim and fixed to each bar carrying the tines; the notches on the bush engage with similar notches inside a cam provided with two detents on opposite sides. The cam and tine bar are held in position by means of a release dog or pawl, which engages with a detent on the cam until released by a lever connected to a bar actuated by the main operating lever. As soon as the cam is free to revolve, the lever and pawl fall into position and are ready to engage the cam when it has travelled half-way round, thus bringing the upper set of tines into work. Very little effort is required to release the levers, and there is no pressure on the cam after the pawl is moved, so there is little or no wear on the point of the cam.

When the tines are released, the forward motion of the harrow causes them to revolve ; but to ensure that they turn so as to bring the upper tines into work, a dummy tine is fixed to each of the four square bars at right angles to the other bars.

Except round headlands, when the operating levers are pulled right over to engage in a notch for continuous tripping, they are only moved a few inches to release the tines, when they are made to return immediately by means of springs, and the pawls are held in position ready to receive the cam stop on its half turn.

Each row of tines can be set at any angle for work by altering the position of the notched bush with reference to its cam.

The transport consists of two wheels with a through axle carrying two arms and drawbar, the implement being slung under the axle. To lower the implement, two holding down bolts are removed, allowing the drawbar, which acts as a lever, to rise up and so lower the harrow to the ground. To put the harrow on transport, this operation is reversed.

The main principles claimed for this harrow are that the tines always clear themselves, leaving rubbish on the surface without missing ground, and by adjusting the angle of the tines the working depth is under control.

*(For Committee's Report, see p. 231.)*

WALTER A. WOOD COMPANY, Limited, 36 Worship Street, London, E.C. 2.

Spring tooth harrow, "Climax," 23 teeth, 8' 3" wide, in three sections. Price £12, 10s., less 5 per cent discount, cash on delivery, carriage paid.

Each tooth can be adjusted separately to ensure even depth of cultivation, and a slot at the end of the tooth permits all the teeth being set in line.

A special feature of this harrow is exhibited in the patent adjustable tooth-fasteners. The teeth are located in position on the transverse bars by means of bolts and nuts in combination with stirrup-shaped bearings and serrated washers ; the stirrup bearing prevents side motion, and the washer renders slipping impossible once adjustment has been made.

The points are reversible, and the teeth are provided with a third hole, so that the points can be lowered and further work got out of them.

The frames are strongly constructed, and run on renewable

shoes; each section is provided with separate means of adjustment.

The teeth move through the ground with a vibrating motion, and thoroughly stir up the soil.

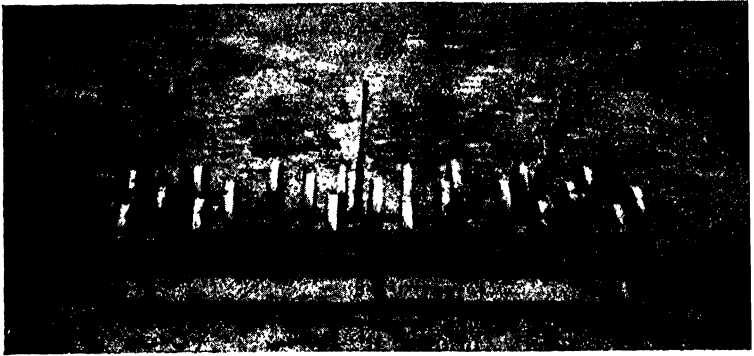


Fig. 90.—*Walter A. Wood Company spring-tooth Harrow.*

Double disc harrow. Price £30, less 5 per cent discount, cash on delivery, carriage paid.

This harrow has a steel frame, and the discs are made up in flexible spring gangs, with twelve plain discs on the front,



Fig. 91.—*Walter A. Wood Company double-disc Harrow.*

and twelve cutaway discs on the rear gang, the width being 6 feet

The "cutaway" on the rear gang discs efficiently deals with any lumps left after the front gang has cut through them, leaving a good tilth.

The discs on the front and rear gangs are set for out-throw and in-throw respectively.

## HARROWS.

### *Committee's Report.*

A breakdown in the weather on the Thursday afternoon and Friday prevented the Committee having an opportunity of seeing all the harrows at work.

The disc harrows did good work, cutting up the surface soil, and leaving it in a fine tilth. A Walter A. Wood Company's disc harrow was tried also on land that had been previously ploughed. It is an effective implement for pulverising and disintegrating the soil. The cutaway discs on rear gang appear to be an advantage.

Spring-tooth harrows were working under unfavourable conditions, and under these circumstances it was hardly possible to form an estimate of their capabilities.

Newlands' brake harrow is designed to work in conjunction with a cultivator. It was shown working on cultivated land, and gave a satisfactory performance, even under unfavourable conditions.

A Nicholson 3T harrow was shown with an ingenious self-cleaning arrangement. By actuating a lever the front and back were raised alternately, thus allowing the teeth to free themselves of weeds and any accumulation of rubbish. This action can be made continuous if desired.

The Wilder pitch pole harrow seems well adapted for bringing weeds to the surface. It can be used either as a harrow or as a drag, and there is a device for altering the angle of the tines to suit the condition of the soil and regulate the depth. The self-cleaning arrangement is distinctly novel, and it would be interesting to see this machine tried under favourable conditions.

## GENERAL OBSERVATIONS BY REPORTING COMMITTEE.

### TRACTORS.

The Committee desire, in the first place, to record their appreciation of the marked advance which has taken place in tractor construction since the Society's last Demonstration in 1917. They note with satisfaction that many of the suggestions embodied in the Report on that Demonstration have now been given effect to. This is probably nowhere more noticeable than in regard to weight, the limit of 40 cwt. set by the Society being found to exclude very few of the tractors at present in use in this country.

With regard to horse-power, and considering the work which a tractor is required to do on the farm, the Committee are of opinion that a minimum of 25 B.H.P. is desirable. In arriving at this decision, the Committee have in view the fact that the tractor must have sufficient power, not only to draw a 3-furrow plough under ordinary conditions, but also to pull a cultivator to a proper depth, and taking a width at least equal to the full over-all width of the tractor.

The Committee's former recommendation regarding the use of spuds, rectangular in section and about 3" to 4" in width, and from 4" to 5" in length, is now very generally adopted. There is a marked improvement in the accessibility of the working parts, and, in most cases, in their protection from the effects of exposure to weather and the entrance of grit.

There is no advance to record in the adoption of spring connections and release devices between the tractor and plough. The use of a wooden peg, which shears through under excessive strain, appears to be the most popular method of release.

The use of an adjustable hitch, fitted either to the tractor or the implement, is now widely adopted with advantage.

It was noticeable that the tractors demonstrated were provided with a variety of speeds suitable for the different operations which they are called upon to perform.

Practically all the tractors were easily manipulated and turned at the headlands, a 24 ft. headland being found suffi-

cient. Some of them could be turned in considerably less. Those tractors having a driving wheel in the furrow are more easily steered, and appear to obtain a better grip.

All the tractors appeared capable of being used with any implement as a one-man outfit.

## PLOUGHS.

In regard to ploughs, a distinct advance since the last trial has also to be noted. Much good work was performed. All ploughs are now fitted with a self-lift arrangement. Many of them are also provided with an efficient means of adjustment to different widths and depths. In view of the varying conditions of soil in Scotland and the variety of work to be undertaken, a plough that is not adjustable must be regarded as being unsuitable. There is still room for improvement in this respect, not only in providing means of adjustment, but in the ease and rapidity with which adjustment may be effected. In this connection it may be noted that a tractor plough, taking 2 or 3 furrows, requires more adjustment than a horse plough.

The ploughs were mostly fitted with revolving discs and skim coulter. It was noticeable, however, that not one of these was capable of effectively paring the turf from the edge of the furrow slice and laying it in the furrow bottom in such a way as not to interfere with the proper packing of the ploughing. In most cases the skimmed portion was merely folded over, and left in such a position that the furrows could not be compactly put together.

## SUB-SOILING PLOUGHS.

The Committee were impressed with the work done by the ploughs with subsoil attachments, and consider that this is a type of implement which farmers might adopt more extensively with advantage, especially where land has been continuously ploughed for a long period with plain-bottomed ploughs.

This method of sub-soiling, where the subsoil is broken up but left in position, can have no disadvantage, and should be highly beneficial in improving the drainage and in mitigating the evil effects of excessive drought.

## GRUBBERS AND CULTIVATORS.

The grubbers and cultivators were demonstrated on a field of unbroken stubble. It was originally intended to show them cultivating across the ploughed land, but this was aban-



done in deference to the wishes of the farmer, who thought it would be a mistake to cultivate a field so well ploughed at this season of the year.

The work done on the stubble field was creditable to the various implements. For deep work on unbroken or hard land the Demonstration showed that a grubber is more suitable than a cultivator. The cultivators shown, however, should be extremely useful for medium or lighter soils.

In selecting a cultivator, it is desirable to see that there is ample clearance not only between the tines, but also between the frame and the surface of the cultivated land. It would be an advantage if grubbers and cultivators were of sufficient width to cover the track of the tractor.

As grubbers and cultivators are mostly required for spring cultivation, a demonstration in autumn does not provide a satisfactory test of their capabilities.

## HARROWS.

The harrows also were demonstrated under unsuitable conditions, these being, of course, mainly implements for spring cultivation. The capabilities of the disc and spring-tooth harrows are well known, and used with tractors they can perform much useful work. Various ingenious self-lift harrows were shown, and doubtless the self-cleaning devices embodied in these will prove to be serviceable when operating on dirty land.

## THE CEREAL AND OTHER CROPS OF SCOTLAND FOR 1922, AND THE WEATHER OF SCOTLAND IN 1922.

### THE CROPS.

THE following comparison of the cereal and other crops of 1922 with those of the previous year has been prepared by the Secretary of the Society from answers to queries sent to leading agriculturists in different parts of the country.

The queries issued by the Secretary were in the following terms:—

1. What was the quantity, per imperial acre, and quality of grain and straw, as compared with last year, of the following crops? The quantity of each crop to be stated in bushels. What quantity of seed is generally sown per acre?—(1) Wheat, (2) Barley, (3) Oats.
2. Did the harvest begin at the usual time, or did it begin before or after the usual time? and if so, how long?
3. What was the quantity, per imperial acre, and quality of the hay crop, as compared with last year, both as regards ryegrass and clover respectively? The quantity to be stated in tons and cwts.
4. Was the meadow-hay crop more or less productive than last year?
5. What was the yield of the potato crop, per imperial acre, as compared with last year? The quantity to be stated in tons and cwts. Was there any disease? and if so, to what extent, and when did it commence? Were any new varieties planted, and with what result?
6. What was the weight of the turnip crop, per imperial acre, and the quality, as compared with last year? The weight of the turnip crop to be stated in tons and cwts. How did the crop braird? Was more than one sowing required? and why?
7. Were the crops injured by insects? State the kinds of insects. Was the damage greater or less than usual?
8. Were the crops injured by weeds? State the kinds of weeds. Was the damage greater or less than usual?
9. Were the pastures during the season of average growth and quality with last year?
10. How did stock thrive on them?
11. Have cattle and sheep been free from disease?
12. What was the quality of the clip of wool, and was it over or under the average?

From the answers received, the following notes and statistics have been compiled:—

### EDINBURGH DISTRICT.

**MID-LOTHIAN.** *Wheat*—About 40 bushels per acre, many crops yielding badly; straw, exceptionally heavy crop, about 2 tons per acre; 4 bushels per acre sown; sample of wheat under average. *Barley*—Variable yields, possibly about 40 bushels per acre on an average; a bulky crop of straw, decidedly over the average; 3 bushels per acre sown; sample of barley fair. *Oats*—Fully 48 bushels on an average; straw, a heavy and bulky crop, over the average; 5 bushels per acre sown; sample of oats in lower districts very good, in higher, some badly discoloured by rain. *Harvest* began about a fortnight later than usual; very little cutting took place till September; in the early districts grain was mostly secured in good condition, but in the higher parts a great deal was damaged and stacked in middling order, owing to the long wet spell. *Hay*—Should average nearly 3 tons per acre on best land, and all over a very much better crop than last year; quality good; second crop about 1 ton per acre. *Meadow-hay*—Very little grown. *Potatoes*—8 to 10 tons per acre; crop over the average and much heavier than last year; no disease; some new varieties, mostly “immune,” were planted, but results seemed very variable and a decided preference exists for the older varieties such as “Arran Chief” and “King Edward.” *Turnips*—20 tons per acre on an average; good quality; crop braided well and kept growing on longer than usual. *Insects*—No damage. *Weeds*—Not much perceptible damage where work was kept well in hand. *Pastures*—Above an average in growth and kept a lot of stock; quality perhaps hardly up to the usual standard; plenty of winter keep on pasture right up to New Year. *Live Stock* thrived very well, but seemed to need more concentrated feeding stuffs than usual to finish off; this was probably due to ranker growth in grass. Practically no disease among cattle and sheep. *Clip of wool*—Better than last year.

**WEST LOTHIAN.** *Wheat*—Say 54 bushels; straw good and plentiful; quality of grain not so good; seed sown, 4 bushels per acre. *Barley*—Say 46 to 52 bushels; straw an average crop; seed sown, 4 to 5 bushels per acre. *Oats*—Say 52 to 58 bushels; straw good and plentiful; seed sown, 5 to 6 bushels per acre. *Harvest* late in starting, owing to wet weather; the harvest was a prolonged one. *Hay*—Say 50 cwt. per acre. *Meadow-hay*—Very little grown. *Potatoes*—Earlies, 4 tons per acre; later, 5 to 6 tons; owing to late harvest and early frost a good deal of damage was done in the drills before lifting; few new varieties planted. *Turnips*—20 tons per acre; crop braided very slowly; very little second sowing. *Insects*—No damage. *Weeds*—Few, owing to dry spring. *Pastures*—Good. *Live Stock* thrived well. Cattle and sheep free from disease. *Clip of wool*—Average.

**EAST LOTHIAN (Upper District).**—*Wheat*—43 bushels per acre would be an average crop; the quality of grain was much better than might have been expected, in view of the want of usual sunshine; the quantity of straw was much above an average, and would reach 40 to 44 cwt. per acre on most farms. *Barley*—46 to 48 bushels. This crop thrashed more than most arbiters would have valued it at, and the quality was, like the wheat, better than looked for; the quantity of straw was

normal, about 25 cwt. per acre. *Oats*—64 bushels per acre. The season was more favourable for this crop than for the other cereal crops, and some extraordinary thrashings are recorded from some of the new varieties of what is generally known as thick-skinned oats; quantity of straw above an average, 30 to 34 cwt. per acre; the quality of the latter rather under an average. *Harvest*—The harvest in general would be ten days to two weeks later. *Hay*—Hay crop above an average, 45 to 50 cwt. per acre. *Meadow-hay*—None grown. *Potatoes*—This crop also above an average, 7 tons ware per acre; no disease, and no new varieties in particular. *Turnips*—This crop had a long period of growth, on account of the open autumn, and finished above an average crop; 28 tons per acre on many farms; no resowing, and little or no disease. *Pastures*—The pastures in general were exceptionally good. *Live Stock* thrived well. Cattle and sheep free from disease.

**EAST LOTHIAN (Lower District).** *Wheat*—36 to 44 bushels; yield rather disappointing as to bulk; straw yield good; 3 to 4 bushels sown. *Barley*—56 to 64 bushels; a record yield; "Plumage Archer" is the variety principally sown and it is a prolific yielder; some later crops got the bad weather at the end of harvest, but generally the barley crop in the low district of East Lothian was a good one in every way; seed sown, about 3 bushels drilled. *Oats*—56 to 72 bushels; thick-skinned varieties principally sown; straw good, and crop well got on the whole; seed sown, about 5 bushels drilled. *Harvest*—About 10 days later than average; commenced about 24th August; very showery weather, but never much rain, and crops did not suffer much. *Hay*—A fair crop, 2 to 2½ tons. *Meadow-hay*—Not much grown. *Potatoes*—7 to 9 tons per acre; no disease; the price being so low makes the crop a losing one to the grower. Many "immune" varieties are poor quality, and this hurt the trade and the demand. *Turnips*—A good crop, 22 to 30 tons; early sown braided well; later sown not so good. *Insects*—A little fly on turnips but not serious. *Weeds*—Charlock bad on many fields. *Pastures* were not up to the average; a poor grazing season, too cold. *Live Stock* thrived only fairly well. Cattle and sheep free from disease. *Clip of wool*—Clip a fairly good one.

#### BORDER DISTRICT.

**BERWICKSHIRE (Merse).** *Wheat*—An average crop; scarcely as good a yield as last year; 35 to 45 bushels, but a larger amount of straw; seed, 2½ to 4 bushels per acre. *Barley*—An excellent crop all over, giving a good yield of grain; 32 to 56 bushels; a much larger amount of straw than last year; seed, 2 to 3½ bushels. *Oats*—A very good crop both in grain and straw; 48 to 70 bushels; seed, 4 to 6 bushels. *Harvest* began fully three weeks later than last year. *Hay*—A smaller crop than last year, but mostly got in excellent order; 2 to 3 tons. *Meadow-hay*—Only a fair crop. *Potatoes*—A very irregular crop, being practically a failure on very stiff land and an average crop on lighter soils; owing to heavy rainfall there was a certain amount of disease. *Turnips*—A bumper crop of large sound roots; 30 tons and over; the crop braided very quickly and evenly; second sowing was unnecessary except in very exceptional cases. *Insects*—Damage not noticeable. *Weeds*—Charlock and thistles seemed to thrive, but were well killed down among turnips. *Pastures* were the best seen for many years. *Live Stock*—All classes of stock did well, cattle especially being more than half-fat when shut up to feed off. Cattle free from disease, but the wet autumn caused much

lameness among ewe stocks. *Clip of wool*—Quality good, and in most cases over the average in weight.

**BERWICKSHIRE** (Lammermoor). *Wheat*—Almost none grown. *Barley*—Fair crop; straw abundant; 32 bushels grain and not great quality. *Oats*—Crop good bulk; straw plentiful; a good deal badly laid; grain 36 bushels; quality largely secondary. *Harvest*—Owing to cold summer very late, 4 weeks later than last year; harvest protracted, not all cut in October; fair at the latter end; a month to 5 weeks later than last year. *Hay*—About 2 tons per acre, more than double the 1921 crop; a great deal of hay too ripe when cut, owing to showery weather. *Meadow-hay*—Quite a good crop, but a month later than usual; 1 ton on an average. *Potatoes*—About 7 tons, or nearly 3 tons per acre over the 1921 crop; quality only fair; no disease; no new varieties to speak of. *Turnips*—Good crop; to about 20 tons, but difficult to clean. *Insects*—No damage. *Weeds*—Charlock very prevalent. *Pastures*—Very abundant; growth excessive—the very opposite of 1921. *Live Stock* thrive only fairly well. Cattle and sheep free from disease. *Clip of wool*—Good.

**ROXBURGHSHIRE**. *Wheat*—Almost none grown. *Barley*—A heavy crop; a good deal laid; probably about 34 bushels per acre, and straw 18 cwt. per acre; grew rather slowly in spring and ripened slowly. *Oats*—A bulky crop; a good deal laid; difficult to cut; a tedious difficult harvest, but mostly well got in the end; about 40 to 50 bushels per acre; 18 cwt. of straw. *Harvest*—Began about a fortnight late, and finished a month or more later than usual. Corn, however, wonderfully little damaged considering the protracted harvest. *Hay*—About 2 tons per acre; tedious to work, but well got. *Meadow-hay*—A good crop, but in many cases was never got owing to the weather. On many places the art of making hay is not so good as it was. *Potatoes*—A bountiful crop; 8 tons per acre all over; very little disease; many new varieties tried, but no results available. *Turnips*—A fine crop all over, both swedes and yellows, especially where early sown. The later turnips showed a greater proportion of shaws to the size of the roots. Swedes, 20 tons; yellows, perhaps 18 tons. Some turnips braided a little irregularly, but most came evenly, with very little resowing. *Insects*—No damage from insects but a certain amount of dry rot and finger-and-toe. Much of the land seems to require lime. *Weeds*—Where properly cultivated crops did not suffer from weeds. *Pastures*—A plentiful supply of grass; but in many cases pastures would have been improved with more cattle on them. Cattle were difficult to get, owing to foot-and-mouth restrictions. *Live Stock*—Lambs were thin to begin with, owing to bad weather in the spring, but came out fairly well considering the damp sunless weather through summer. Cattle in this district were free from foot-and-mouth disease. I have again to report a good deal of disease—"scrapie," "louping-ill," and "braxie." I should say, all over, sheep are not so hardy as they were. *Clip of wool*—Good quality; more of it than last year; quite an average.

**SELKIRKSHIRE**. *Wheat*—None grown. *Barley*—34 bushels, nearly all second quality, due to want of sun and unfavourable harvest conditions. *Oats*—36 bushels, except on the later lands, where 28 bushels would represent a crop; badly ripened and of poor quality. *Harvest*—Generally three weeks later, and little of the oats were well ripened. *Hay*—2 tons; fair quality. *Meadow-hay*—A good crop, but owing to the weather conditions only fair quality. *Hill-hay*—Mostly

of inferior quality and very costly to get. *Potatoes*—8 tons; good quality; little or no disease. *Turnips*—From 16 to 28 tons; early-sown turnips a fine crop; late brairds benefited greatly from the fine autumn. *Insects*—More wire-worms than usual. *Weeds*—No damage. *Pastures* were good except during April and May, which months were too cold. *Live Stock* thrived very well after the grass came. Cattle and sheep free from disease. *Clip of wool*—Good, and a full clip.

**PERBLESSHIRE.** *Wheat*—Very little grown, if any. *Barley*—30 to 45 bushels, and 10 to 15 cwt. straw; seed, 4 bushels per acre. *Oats*—24 to 40 bushels, and 10 to 18 cwt. straw; seed, 5 bushels per acre; in some cases the crop was too poor to justify cutting. *Harvest* began ten days later, and in some places it was fully two weeks later; the oats first cut were secured in good order, but the late cut were not so well got. *Hay*—Ryegrass hay good crop, 30 to 45 cwt. per acre, and well secured. *Meadow-hay*—Good crop, 25 to 40 cwt. per acre; hardly so well secured as ryegrass. *Potatoes*—6 to 8 tons per acre; quality good, but more small tubers; however, keeping well in pit. *Turnips*—15 to 20 tons per acre; quality good; first-sown turnips brairded very quickly, but those sown after 1st June were slow to braird; very little second sowing, if any. *Insects*—Little or no damage done. *Weeds*—Little damage by weeds. *Pastures* grazed very much better than last year. *Live Stock* did very well on them. Very little disease amongst cattle and sheep. *Clip of wool*—Quality good; fully more than last year.

#### DUMFRIES DISTRICT.

**DUMFRIESSHIRE (Annandale).** *Wheat*—Very little grown. As Mid-Annandale is a pastoral district, almost wholly given to stock rearing and dairying, fodder is essential, and the cereal crops consist mainly of oats. *Barley*—Partly for the same reason, no great breadth of barley is sown. The great drop in the price of barley since 1918 has further reduced the acreage under this crop. Where grown this year barley showed an increased yield of straw, but grain was less, compared with last year, and owing to lack of heat, was not so well filled, and there was a larger proportion of light grain. Average of crop; grain, 33 bushels, and straw, 20 cwt. per acre. *Oats*—The oat crop was variable. On dry soils a good crop was obtained; but on cold-bottomed lands it was disappointing. Generally speaking, on such soils it was thin on the ground and did not bulk largely when reaped. Dry cold weather set in on 10th March with low temperature at nights. A start was made with sowing about the 15th, and the work was general over the district by the 20th. The greater part of the seed was got in without a shower, as the dry spell lasted from 10th March to 13th April, when the weather changed. It would have been better, however, if the corn had been left in the sack, as during the month there was no chance for germination taking place, the ground being so dry. It was five weeks from seeding time before the braird appeared, and during this long period a considerable percentage of the seed perished owing to the severe night frosts that prevailed. This was the principal cause of the plants being so thin on the lea break. The crop after roots did not suffer to the same extent, as it was later in being sown. A cold sunless summer followed, and the crop was late in getting into ear, ripened slowly, and there was a large proportion of the ears badly filled. The result was a disappointing yield of grain from what appeared to be a good crop of straw. In the

higher districts the crop was not ready to cut until the end of October, and there the ripening process was helped forward by the frosts then prevailing, thereby further diminishing the yield of grain. Average yield, 30 bushels per acre; straw, 28 cwt. Quantity of seed sown 5 bushels per acre of Potato oats, 7 bushels of the newer varieties. One bushel less per acre when drilled. *Harvest* began about 15th September, or five weeks later than last year. *Hay*—Ryegrass hay crop heavier than last year, but quality not so good. Unsettled weather prevailed during hay harvest, and this, combined with lack of sunshine, caused considerable loss and damage to quality. The sunless summer did not favour the growth of clover, and very little of this plant was to be seen. Average weight of crop, 26 cwt. per acre. *Meadow-hay*—Crop also heavier than last year. Favoured with better weather the crop was secured in good condition. More sun would have helped, but provided the crop is got into rick without rain, farmers do not mind although it should heat in the stack. The bulk of the ryegrass is sold; but meadow-hay is entirely consumed on the farm, and heating caused by its own sap makes the hay more palatable to stock. Weight of crop, 28 cwt. per acre. *Potatoes*—The potato is said to be a "sun" plant, but somehow this year the want of sunshine did not seem to do the crop harm. The yield per acre was considerably over that of last year, when it was favoured by sunshine and dry weather. The potato fields looked well all summer; but although this was the case, growers (owing to want of warmth) expected a reduced yield. Owing probably to the low temperature prevailing there was little or no disease. Weight of crop works out to about an average of  $7\frac{1}{2}$  tons per acre. One did not hear of any new varieties being tried. Farmers prefer trusting to old favourites, such as "Arran Chief," "Crusader," "Kerr's Pink," "Great Scot," &c. *Turnips*—Following a cold summer the turnip crop in Annandale was poor; little more than half of last year's crop. On naturally dry or holm lands the crop would nearly be an average, but on the damp cold-bottomed soil in the upper reaches of the district the crops were very poor. In fact, on not a few farms the turnip crop failed entirely. Cold backward weather prevailed during the whole season, with a temperature nearly at freezing-point at nights. The crop was slow in braiding, and occasional frosts in the early mornings in May blighted the young plants, and resowing was common all over the district. In many instances three sowings were necessary, and in the end of the season, when getting late for turnips, large breadths of fallow land were sown out with rape. It is exceedingly difficult this year to estimate the average yield. After going into the matter carefully the writer believes that the average of this crop will not exceed 14 tons 5 cwt. per acre. *Insects*—Insects were not troublesome. Turnip-fly was present, but did not damage the turnip braird sufficiently to cause resowing. Grub did some damage to oats, but the greater part of the damage attributed to this pest was really caused by the abnormally cold weather experienced before the seed germinated. *Weeds*—Weeds were not unusually prevalent, and one cannot say that farmers were put to any extra expense or suffered loss on this account. *Pastures* were of more than an average growth compared with last year. In 1921 the season was dry and warm, and the pastures suffered from droughts. This season, 1922, will long be known as the sunless summer, when grazings, though perhaps of average growth, lacked quality for want of sunshine. *Live Stock*—Stock thrive better than might have been expected. This is partly accounted for by the fact that the warble-fly was not nearly so troublesome as in the previous warm summer. It was noticed that cattle taken in this autumn to be fed in courts, though in

appearance they looked well, were soft and flabby to the touch, and did not respond so quickly to better feeding. Therefore, in consequence, they were longer in getting ready for the fat market. Louping-ill was unusually prevalent in spring, as it generally is during a cold, dry, barren season. It has been reported that this year the disease appeared on farms where hitherto it had been unknown. Braxy claimed a few victims, but the loss from this cause was not excessive. Disease amongst other stocks was less than usual. *Clip of wool*—Quality good. Quantity more than an average clip.

**DUMFRIESSHIRE (Nithsdale).** *Wheat*—None grown. *Barley*—None grown. *Oats*—25 bushels per acre; straw, 15 cwt.; 1 bushel seed sown per acre. *Harvest*—Three weeks after usual time. *Hay*—Equal to last year. *Meadow-hay*—More production. *Potatoes*—Better crop; 12 tons; no disease; no new varieties. *Turnips*—24 tons per acre; quality good, but not quite ripe; the crop brairded very slowly and there were many blanks. *Insects*—Turnips were attacked by “fly”; damage about the same as usual. *Weeds*—Some injury to crops by spurry and redshank. *Pastures*—Better growth than last year, and good quality. *Live Stock*—Throve very well. Cattle and sheep free from disease. *Clip of wool*—Heavy clip, and of good average quality.

**DUMFRIESSHIRE (Eskdale).** *Wheat*—None grown. *Barley*—None grown. *Oats*—The quality was anything but good, owing to the very bad harvest, but thrashed fairly well, and will be about 33 to 36 bushels per acre; straw was also bad in quality and not good fodder; seed sown per acre, about 5 bushels of Potato and about 6 to 7 bushels of Yielder, &c. *Harvest*—Later than usual, about a week later than last year. *Hay*—Quantity very heavy, but most was badly laid and was difficult to cut; about 32 to 34 cwt. per acre; quality all over fairly good. *Meadow-hay*—Crop was badly laid and was very difficult to cut, as with so much rain the bottom got fairly rotted and clogged the machine knives; about 28 cwt. per acre and quality not good, mostly too late. *Potatoes*—Heavier than last year; about 10 tons per acre; not much disease, and very few new varieties planted; “Great Scot” and “Kerr’s Pink” seem most popular, and a few “Lochar” planted. *Turnips*—Very uneven all over; one farm very bad, and hardly any crop, and the neighbouring one quite a useful crop; difficult to give an average yield all over; if taken all over the average would be very small, as many places have practically no turnips—the cold wet summer was to blame; the braird came fairly well, but turnips did little good all summer, and in a few fields second sowings were required, as it was very dry just about brairding time, and “fly” was bad. *Insects*—No injury by insects, except a little by “fly,” when turnip braird was coming. *Weeds*—No worse than other years, only they were difficult to kill with so much rain. *Pastures*—Quite an average growth, but too wet and cold to have the usual quality. *Live Stock*—Stock did fairly well. Cattle and sheep exceptionally free from disease; do not think there has ever been so little braxy amongst hogs. *Clip of wool*—Quite an average; but in many cases wool was not too dry when clipped, as it rained day after day; clipping was a tedious job.

**KIRKCUDBRIGHTSHIRE.** *Wheat*—None grown. *Barley*—None grown. *Oats*—Generally a good crop; much better than last year’s; grain plump and yield above average, but sadly discoloured in most cases and in some seriously damaged; yield, about 55 bushels per acre; straw, 30 cwt.; 4 bushels per acre seed sown. *Harvest*—Commenced ten days later than usual, and was very protracted. *Hay*—A heavier crop than last year;



about 35 cwt. per acre. *Meadow-hay*—Not so good as last year. *Potatoes*—Heavy yields of all varieties; earlies up to 10 tons per acre, and second early and lates 12 to 15 tons per acre; blight was present on haulms and showed quite early, but owing to a low temperature little damage ensued. The general striving for a good immune potato resulted in many new varieties being tested, but in small compass. *Turnips*—Crop brairded capriciously, and considerable resowing was required; with favourable autumn weather there was a good and sound crop of 18 tons per acre. *Insects*—Insect damage less than usual. *Weeds*—Not more prolific than usual, but owing to weather conditions much greater difficulty in dealing with them; chiefly of annual character. *Pastures*—Good throughout a prolonged season. *Live Stock* thrived well. Cattle and sheep free from disease.

**WIGTOWNSHIRE.** *Wheat*—Very little sown; grain fair, from 35 to 38 bushels; quality of straw not good; seed sown, 4 bushels. *Barley*—36 to 40 bushels; grain good, straw fair. *Oats*—28 to 38 bushels; quality of grain very irregular, mostly poor and soft; much of the straw lodged and spoiled; seed, when sown by drill, about 4 bushels; by hand, 6 bushels. *Harvest*—Harvest was very late, beginning about the middle of September and going on until the third week of October. *Hay*—Very heavy crop of ryegrass and clover hay; in most cases over 2 tons per acre. *Meadow-hay*—Very good crop. *Potatoes*—A very good crop; from 5 to 8 tons per acre; quality not so fine as last year; practically no disease. *Turnips*—Grew on well in the back-end; quality not so rich as last year, owing to want of sunshine; about 18 tons per acre. *Insects*—No damage. *Weeds*—Very few and no damage. *Pastures*—There was quite an average bulk of growth, but not the same quality. *Live Stock* of all kinds seemed to thrive quite well. Both cattle and sheep were free from disease. *Clip of wool*—Quality very good; rather over the average.

#### GLASGOW DISTRICT.

**AYRSHIRE.** *Wheat*—43 bushels; of medium quality, 60 lb. per bushel. Straw 34 cwt. per acre; seed sown 3 to 3½ bushels per acre. *Barley*—38½ bushels of moderate quality; 55 lb. per bushel. Straw 24 cwt. per acre; seed sown 3 to 4 bushels per acre. *Oats*—45½ bushels per acre of variable quality; 38 lb. per bushel. Straw 30 cwt. per acre; seed sown 5½ to 7 bushels per acre. *Harvest*—Two weeks later than usual. The absence of sunshine caused crops to mature slowly, and considerable quantities of grain in the later districts were cut in a semi-green state. October was the best month of the year, and this enabled grain crops to be secured in good condition. *Hay*—1 ton 14 cwt. per acre of moderate quality, weather being unfavourable during the greater part of the season. *Meadow-hay*—1 ton 13 cwt. per acre of medium quality. *Potatoes*—8 tons 15 cwt. per acre. Quality up to the average. Practically no disease. A few new varieties were tested, but none of them came up to the standard of older and tried sorts. *Turnips*—18 tons 10 cwt. per acre. Crop brairded well and little resowing was necessary. The crop was backward in the early part of the season, but the mild weather during the autumn months helped to increase the bulk. *Insects*—No serious damage was done by insect pests. *Weeds*—Owing to the continued rainfall it was much more difficult than usual to keep weeds in check, and some crops suffered accordingly. *Pastures*—Grass was late in coming in spring, and the absence of sunshine contributed to

its lessened value for feeding stock. *Live Stock*—Throve only moderately well. Grass was short in spring, and later in the season the cold and damp nights were not favourable to stock making rapid progress. Hill sheep have, however, done well and began the winter under very favourable conditions. Cattle and sheep free from disease, excepting the regular diseases for which there seems to be no cure. *Clip of wool*—Quality and weight rather above average. Hill ewes would clip on an average from  $4\frac{1}{2}$  to 5 lb. per head.

**BUTE.** *Wheat*—None grown. *Barley*—None grown. *Oats*—A good crop all over the island, despite a wet sunless summer; will not thresh so well this year, as there is more light grain; from 36 to 40 bushels per acre; 6 bushels seed sown. *Harvest* began later this year, and was very prolonged; started 8th September and finished about 27th October; first half very broken weather and no drought; cleared up about 14th October and made a splendid finish; early-cut grain suffered much in quality. *Hay*—A little better crop as to weight, but not such good quality; from 1 ton to  $1\frac{1}{2}$  ton per acre. *Meadow-hay*—Not much grown; crop better than last year; quality good. *Potatoes*—"Epicures" commenced digging 20th June; a better crop than last year;  $4\frac{1}{2}$  tons at the beginning to about  $9\frac{1}{2}$  tons per acre at the finish. "Suttons" (second early) would dig from 7 to 8 tons. Very little disease, which showed about the middle of September. "Field Marshal" new variety grown, late potato, good cropper. *Turnips*—Crop not so good as last year; 20 to 25 tons to the acre; braided rather slowly, but not much second sowing needed. *Insects*—No damage. *Weeds*—No injury by weeds. *Pastures*—Under average, owing to cold wet summer; fields got very bare early in the autumn—much earlier than usual. *Live Stock* did all right. No special disease among either cattle or sheep. Braxy among hogs still exists. Imoculation is being tried on one or two holdings. *Clip of wool*—Quality good and over average.

**ARRAN.** *Wheat*—None grown. *Barley*—None grown. *Oats*—A fair crop, secured in moderate condition; plenty of straw, but grain not up to usual owing to wet season; weight about 38 lb. per bushel; return per acre, say 32 bushels; seed sown, about 6 bushels per acre. *Harvest*—Ten days later than last year. *Hay*—A bulky crop, but quality not up to last year; say 20 cwt. per acre on average; not so much seed saved as usual; light in weight per bushel and quality poor. *Meadow-hay*—Very little grown; crop not too well secured. *Potatoes*—A very big crop; from 6 to 10 tons per acre; quality fair, but very little demand for the tubers; kept well in pit. *Turnips*—Crop less than last year, say about 10 tons per acre; some disease; wood-pigeons sore on the plants after singling; braided rather slowly. *Insects*—Fewer insects than previous year. *Weeds*—More weeds than usual, mostly annuals. *Pastures*—More grass than last year; quality not so good; finished well in October; even kept green to the New Year. *Live Stock* thrrove very well. Cattle and sheep free from disease, unless foot-rot in sheep. *Clip of wool*—Good clip, and quality fair.

**LANARKSHIRE (Upper Ward).** *Wheat*—None grown. *Barley*—Only small quantities grown. *Oats*—20 to 35 bushels; less grain; light quality, owing to wet summer; straw much the same as last year;  $4\frac{1}{2}$  to 6 bushels sown. *Harvest* started about a month later than last year; a lot of green in the first-cut lots, and bad-winning weather made it difficult to secure; weather improved, and later districts got all in in good order. *Hay*—25 to 40 cwt.; fair quality and well secured; much

the same as last year. *Meadow-hay*—More productive than last year, but badly secured in later districts. *Potatoes*—7 to 9 tons; better than last year; frost occurred early on for a week, and potatoes lifted during that week kept badly, and had to be marketed at once at a very low price; very little disease; no new varieties. *Turnips*—20 to 30 tons; swedes smaller crop than usual, yellows better; good quality; braided well; no resowing. *Insects*—Damage much the same as usual. *Weeds*—Less weeds, but not so easily killed owing to wet summer; damage less than usual. *Pastures*—Better than last year. *Live Stock* thrived well. Cattle and sheep free from disease. *Clip of wool*—Average.

LANARKSHIRE (Middle Ward). *Wheat*—35 to 40 bushels; straw, 30 to 40 cwt. per acre; seed sown, 4 bushels per acre; quality of grain and straw much inferior, owing to sunless summer and wet autumn; much sprouting took place in the earlier districts. *Barley*—None grown. *Oats*—35 to 50 bushels; straw, 30 to 40 cwt. per acre; seed sown, 6 to 7 bushels per acre; oats thrashed very well, but quality of both grain and straw inferior owing to wet season. *Harvest* was about three weeks later than usual. *Hay* was a heavy crop this year; 30 to 45 cwt. per acre. *Meadow-hay*—Timothy hay was a heavy crop, and weighed 35 to 40 cwt. per acre. *Potatoes* turned out a heavy crop notwithstanding the wet sunless season, and there was very little disease; the crop would weigh from 7 to 12 tons per acre. *Turnips* were a heavy crop and would weigh from 20 to 32 tons per acre; they have also kept well, with little disease; generally the crop braided well. *Insects*—There was a little grub and wire-worm in oats, but nothing of unusual character. *Weeds*—The wet season encouraged the growth of all weeds and made the cleaning of land much more difficult; the weeds were mostly of the annual character and in some cases root grass. *Pastures* were very plentiful and of fair quality. *Live Stock* did well on the pastures, especially in the early season. Cattle and sheep have been free of disease. *Clip of wool*—Very little wool in this ward.

LANARKSHIRE (Lower Ward). *Wheat*—50 to 60 bushels; quality good; straw rather under average; seed sown, 4 bushels per acre. *Barley*—None grown. *Oats*—Good quality; straw rather above average. *Harvest* began about the usual time. *Hay*—Average about 2 tons; quality good. *Meadow-hay*—None grown. *Potatoes*—Yield about average; not many grown; no disease. *Turnips*—Weight rather under average. *Insects*—No damage. *Weeds*—No damage. *Pastures*—Average. *Live Stock* thrived well. Cattle and sheep free from disease.

RENFREWSHIRE. *Wheat*—Quantity much as usual, about 40 bushels per acre; quality barely up to usual standard; straw rather heavier than average, quality quite good; 4 to 5 bushels seed sown. *Barley*—Very little now grown in county, in consequence of which the Fairs Price for same is struck from barley grown in Lanarkshire. *Oats*—About 36 bushels per acre; quality not up to average; straw short of weight (especially so after green crop and in higher districts) and of inferior quality; seed sown, about 5 bushels per acre. *Harvest* commenced about ten days later than usual, and was the most troublesome, long drawn-out one experienced in this county for years, with results to crops as reported above. Wheat did not suffer from dry weather in June as did oats. After that month very broken weather till October; the best weather of whole season was in end of October and November. *Hay*—Quantity per acre hardly up to average; quality not up to standard, owing to very unseasonable, trying weather, the worst possible for hay-

making; very few were able to secure crop with desired temper or bristle on it; not a chance had to be lost to get it secured in anything like order. *Meadow-hay*—Quite as good a crop as last year, but very little secured in as good a condition as desired. *Potatoes*—Yield quite up to last year; average over all about 7 tons per acre; no disease to speak of; no new varieties calling for attention. *Turnips*—Average over all about 18 tons per acre; the quality not so good as last season; late-sown braided badly; in few cases, however, had resowing to be done. *Insects*—No injury. *Weeds*—Nothing more than usual, except where land in poor heart and otherwise neglected. *Pastures* were quite of average growth, but not of as good quality as last year. *Live Stock*—Owing to wet cold season stock did not do so well. Cattle and sheep free from disease. *Clip of wool*—Quite up to usual both as regards quality and weight.

ARGYLLSHIRE (Lochgilhead). *Wheat*—None grown. *Barley*—None grown. *Oats*—Not so heavy as last year, especially on sown-out land, owing to the wet sunless summer; grain much the same, about 6 bolls; straw very short, but lea oats quite fair; seed sown, 6 bushels. *Harvest* began a fortnight later and in some cases more; crop ripened very unevenly. *Hay*—Crop was short in most cases, although where well done to it was quite as good as last year, from 20 to 30 cwt. per acre; well secured. *Meadow-hay*—Rather bulkier than last year; about 35 cwt. per acre. *Potatoes*—Crop surprisingly good, both as regards quality and quantity; average about 6 tons, and not much disease; no new varieties. *Turnips*—Crop not nearly so good in most cases, owing to flooding when sowing and also frost; a good deal of second sowing. On this farm (Killochnoch) there was an extra crop, much heavier than last year. Average not more than 18 tons, but in some cases up to 30 tons. *Insects*—Not much damage by insects; some slight attacks of grub. *Weeds*—Turnips were difficult to keep clean, owing to wet summer; also a lot of thistles. *Pastures* were not so luxuriant. *Live Stock* thrived very well. Cattle and sheep were free from disease; one or two cases of bracken poisoning among cattle. *Clip of wool*—Good quality; just about the average.

ARGYLLSHIRE (Kintyre). *Wheat*—None grown. *Barley*—More straw than last year; grain no better; from 30 to 40 bushels; about 4 bushels seed sown. *Oats*—More straw than last year and thrashing quite as much grain per acre. *Harvest*—About a fortnight later than last year in starting, but a month later in being finished. *Hay*—Better than last year, and fairly well got; about 2 tons per acre. *Meadow-hay*—Better than last year. *Potatoes*—On light land quite as good as last year, but on heavy land not so good; not much disease; from 6 to 10 tons per acre; no new kinds except those that were planted the year before. *Turnips*—Not so good as last year; from 10 to 25 tons; braided quite well; no second sowing. *Insects*—Not injurious to any extent; a little wireworm among the oats, but not bad. *Weeds*—No damage, but owing to the wet summer turnips were difficult to get cleaned; mostly annual weeds. *Pastures*—Better than last year. *Live Stock* thrived well. Cattle and sheep were free from disease, but owing to the bad spring there were more deaths amongst ewes and lambs. *Clip of wool*—Rather under average.

ARGYLLSHIRE (Islands of Islay, Jura, and Colonsay). *Wheat*—None grown. *Barley*—Very little grown, and that only for stock feeding.

*Oats*—A good crop, and secured in good order. *Harvest*—Began about 20th September and finished about 13th October; about the usual time. *Hay*—25 cwt. per acre; average crop. *Meadow-hay*—More productive; fully 20 cwt. per acre. *Potatoes*—Average yield was 5 to 6 tons per acre; no disease; no really new varieties, but "Great Scot," "Kerr's Pink," and "Arran Chief" are still satisfactory. *Turnips*—Would run from 12 to 16 tons. The season remained open until the New Year, and growth continued up till then. Only one sowing. *Insects*—A little damage to brairding oats by grub, but in harvest not appreciable. *Weeds*—As usual. *Pastures*—Above average; they were good up to beginning of November. *Live Stock* did exceptionally well; sheep stocks have not been for years in the condition that they were when tupes went out, 10th to 20th November. Cattle and sheep were free from disease; almost an entire absence of braxy this winter. *Clip of wool*—Average; it does not vary much here.

### STIRLING DISTRICT.

DUMBARTONSHIRE (Upper). *Wheat*—None grown. *Barley*—None grown. *Oats*—About 30 bushels per acre; straw was not so bulky as usual and the quality was under the average. *Harvest* began about two weeks after the usual time. *Hay* was a light crop, much the same as last year; about 25 cwt. per acre; it was got in fair order. *Meadow-hay* was a better crop than last year, and was mostly well got. *Potatoes* were rather a better crop than last year; about 6 tons per acre; there was some loss by disease, which began in August; no new varieties were planted. *Turnips* were only a moderate crop, about 16 tons per acre; the crop brairded well, and there was no resowing. *Insects*—There was a little injury to lea oats from grub, but the damage was not great. *Weeds* were more troublesome than last year, owing to showery weather. *Pastures* were under the average, both in growth and quality. *Live Stock* thrived fairly well notwithstanding the sunless summer. Cattle and sheep free from disease. *Clip of wool*—Wool was under the average both in quantity and quality, especially the milk-ewe fleeces.

DUMBARTONSHIRE (Lower). *Wheat*—About 36 bushels per acre; neither grain nor straw as good quality as last year, owing to want of sunshine; seed sown,  $3\frac{1}{2}$  to 4 bushels per acre. *Barley*—Little or none grown in this district. *Oats*—About 40 bushels; much of the grain was of inferior quality, owing to sprouting in stock caused by wet weather; the later harvested grain was secured in better condition; seed sown, from 5 to 6 bushels, with drill a bushel less. *Harvest* began about a fortnight later than usual. *Hay*—Not as good quality as last year, but a heavier yield; about 36 cwt. per acre. *Meadow-hay*—Heavier than last year. *Potatoes*—From 6 to 9 tons per acre, according to variety; very little disease; the "Maincrop" varieties retained their growth till late in the season; result, very good quality. *Turnips*—Probably about 17 tons per acre on an average; not so good quality as last year, their growth being greatly retarded by the cold and wet weather in June; very little resowing. *Insects*—No injury to any extent. *Weeds*—No damage, but more difficult to keep ground clean than last year. *Pastures*—Average growth, but quality not so good as last year. *Live Stock*—Stock thrived fairly well, but were slow to mature. Cattle and sheep free from disease. *Clip of wool*—A little under usual, owing to poorer condition of sheep in spring.

**STIRLINGSHIRE (Western District).** *Wheat*—None grown. *Barley*—None grown. *Oats*—About 40 bushels grain; straw, 22 to 25 cwt.; grain and straw of fairly good quality; seed, 5 to 6 bushels per acre. *Harvest* was three weeks later than last year; started about 9th September and finished about 20th October. Absence of sunshine and the prevailing rains greatly militated against the maturing and ingathering of the grain crop. *Hay*—1 ton 15 cwt. to 2 tons; rather more clover than last year; secured in good condition. *Meadow-hay*—Rather better crop than last year, and got in fairly good condition. *Potatoes*—About 8 tons per acre; a little disease at lifting in second Earlies; did not keep well in pits, owing to frost at digging time, and in some cases more than half were bad; no new varieties planted. *Turnips*—About 25 tons per acre; very good quality; good braird, and only one sowing. *Insects*—No injury. *Weeds*—With the wet season weeds, principally redshank, came more strongly than usual, and the damage was correspondingly greater. *Pastures*—Of average growth and quality, and an improvement upon last year. *Live Stock* thrived very well. Cattle and sheep free from disease. *Clip of wool*—Good quality and average clip.

**STIRLINGSHIRE (Eastern District).** *Wheat*—About 38 bushels per acre; quality fair; straw about 32 cwt.; seed, 4 bushels per acre. *Barley*—About 30 bushels per acre; quality only fair; straw, 20 cwt. per acre; seed, 4 bushels per acre. *Oats*—About 34 bushels per acre; fair quality; straw, 20 cwt.; seed sown, 6 bushels per acre. *Harvest*—Rather late, and a good proportion secured in middling condition. *Hay*—Good crop, and secured in fine condition. *Meadow-hay*—Fair crop. *Potatoes*—Very good crop. *Turnips*—Fair crop, about 16 tons per acre. *Insects*—Nothing unusual. *Weeds*—No injury. *Pastures*—Quite average growth. *Live Stock* thrived very well. Cattle and sheep free from disease. *Clip of wool*—Good average clip.

**CLACKMANNANSHIRE.** *Wheat*—Much below the average in grain, but plenty of straw. The grain ripened slowly, and did not mature owing to the want of sunshine, and on account of the damp harvest was soft. Yield from 28 to 32 bushels per acre; 3 to 4 bushels seed sown per acre. *Barley*—A little below the average in grain, with a full bulk of straw; quality of grain deficient in colour, owing to lack of sunshine and damp moist harvest; average yield from 30 to 34 bushels per acre; 3 to 4 bushels seed sown per acre. *Oats*—A variable crop, and ripened very irregularly. The cold spring and great lack of sunshine during the summer caused the quality to be very deficient. Full average of straw. Owing to damp misty weather the harvest was long and slow. Average yield 30 to 34 bushels per acre; 5 to 6 bushels seed sown per acre. *Harvest*—The harvest would be quite two to three weeks later than usual. *Hay*—The hay crop was bulky, but did not weigh well; ryegrass would be from 30 to 40 cwt. per acre, Timothy from 35 to 45 cwt. per acre; although the weather was showery during the cutting season it was mostly secured in fairly good condition. *Meadow-hay* was a much larger crop than last year, and was secured in average condition. *Potatoes*—The yield of potatoes was much larger than last year, from 5 to 6 tons per acre; there was very little disease, which showed shortly before lifting; a good few new varieties were planted; in many of the new varieties disease was entirely absent. *Turnips*—An average crop; they braided very slowly; there were instances of finger-and-toe, but this was not general; owing to the moist showery season it was difficult to keep the drills clear of weeds; yield from 12 to 15 tons per acre; very little second sowing. *Insects*—No damage done by insects. *Weeds*

were very plentiful, chickweed among the turnips and charlock among the oats and other cereal crops; the damage was much greater than usual. *Pastures*—The pastures during the summer were quite abundant, and kept green the whole summer; they carried a good average head of stock. *Live Stock*—The stock thrived well on the grass as a whole; but although the grass was abundant, it did not seem to have the same feeding qualities as in other years. Cattle and sheep were free from disease. *Clip of wool*—The clip of wool was a fair average.

**PERTHSHIRE** (Western District). *Wheat*—Straw and grain a full average; grain, 38 to 40 bushels per acre; seed,  $3\frac{1}{2}$  bushels per acre. The area grown was fully greater than that of the previous year; the crop was well harvested. *Barley*—Rather under an average area was grown; the yield of grain was considerably under an average, 30 to 32 bushels per acre; a full bulk of straw; seed, 4 bushels per acre. *Oats*—About usual area sown, and with an average yield of 36 bushels per acre; straw a full bulk, of good quality and well secured; seed,  $4\frac{1}{2}$  bushels per acre. *Harvest* began about a fortnight later than the previous year; the crops were generally well secured, except those in some of the later districts. *Hay* was a bulky crop, especially so in the case of Timothy on carse land; the earlier districts were not so fortunate as regards weather, and in the later also the weather was somewhat broken; there was little damage to the hay crop. On some of the best farms crops of  $3\frac{1}{2}$  tons per acre were secured. *Meadow-hay*—Not much grown, but generally the yield would be an average, and the crop was well secured. *Potatoes*—Generally a very heavy crop; well secured, and of good quality; disease was not prevalent; the varieties grown were generally of the older kinds, few of the newer varieties finding favour in the district. *Turnips*—A very bulky crop; a good braird, and no second sowing. *Insects*—No injury. *Weeds*—On account of the wet weather there was trouble in keeping down the usual weeds. *Pastures* were well grown, but in many cases cattle did not do too well on them, as there was a great want of sunshine. Cattle and sheep free from disease. *Clip of wool*—Average in quality, and fully an average in bulk.

#### PERTH DISTRICT.

**FIFESHIRE** (Middle and Eastern District). *Wheat*—Average, 32 to 40 bushels per acre, a poor sample; yield of straw above an average; owing to bad harvest some sprouting in the stock, and much of the crop secured in an unsatisfactory condition; seeding from  $3\frac{1}{2}$  to 4 bushels per acre. *Barley*—Average from 36 to 42 bushels per acre; owing to the wet sunless season the grain ripened very slowly; sample deficient in colour but thrashed out better than was anticipated; yield of straw over an average; seeding from 3 to 4 bushels per acre. *Oats*—The best of the grain crops; yield of grain and straw over an average; from 48 to 56 bushels per acre on good land; straw a heavy crop generally; damaged by weather on many farms; seeding from 4 to 6 bushels per acre according to variety. *Harvest* started about the first week of September, about a fortnight later than last year, and prolonged through weather conditions until well into October in the later districts; the grain crops were sown under ideal conditions, came away vigorously, and were exceptionally early for the season up to about the end of June; the cold sunless summer delayed ripening, and a much longer interval elapsed than the proverbial six weeks between the shooting and the shearing. *Hay*—Ryegrass and clover hay from 30 to 40 cwt. per acre; over an

average in bulk; quality not so good as last year, and in some cases badly secured. *Meadow-hay*—Very little grown; over an average in yield per acre. *Potatoes*—Yield over an average; from 7 to 8 tons per acre; some disease in certain varieties developed in the pits; "Majestic" best of the new varieties, a sound crop; some damage by frost when lifting on late farms. *Turnips*—Generally a good crop; about 20 tons; crop bairided very irregularly except where early sown, and a considerable area was resown on some farms owing to drought in June, but came away later and developed into a full crop owing to the favourable autumn and mild winter. *Insects*—Some damage by grub to wheat crop. In some instances fields had to be ploughed up in April and May and resown with another crop; some damage by fly to turnip crop. *Weeds*—Not injurious to any extent; charlock not quite so bad as usual. *Pastures* did well; clovers were extra good, and afforded a full bite for stock all season. *Live Stock*—Stock generally did well. In Kirkcaldy district six or seven farms were affected with foot and mouth disease; a good few isolated cases of anthrax over the district, which appears to be getting more prevalent than formerly. *Clip of wool*—The clip of wool was about an average and of excellent quality.

FIFESHIRE (Western District). *Wheat*—Crop of good bulk; average of grain about 40 bushels, of good quality; abundant straw, which in many cases, as with other grain crops, was badly laid before harvest; usual seeding  $3\frac{1}{2}$  to 4 bushels per acre. *Barley*—Likewise a bulky crop, and up to harvest time had every appearance of good yield of grain; weather conditions, however, destroyed the quality; yield of grain averaged 36 to 40 bushels; straw above an average but of soft quality. *Oats*—On the best lands, where well secured, average 48 to 56 bushels, with abundance of straw; on the later lands much of the crop was of light weight due to want of sunshine or early frosts, and in consequence there was much "tail" grain when threshing. *Harvest* was general between the second and third weeks in September, and on the average would be two to three weeks late. The weather was very broken, and harvest was a long uncertain operation. Much of the grain, if not already damaged in the stook, was heated in the stack, and as a consequence there was a larger proportion of damaged grain on the market. Harvest 1922 would be the worst since 1907. *Hay*—Ryegrass hay was a heavy crop of 2 to 3 tons per acre, and was more or less secured in good order. *Meadow-hay* likewise a heavy crop, and the quality good. *Potatoes* were one of the heaviest crops for some years. The earlier varieties were of good quality and averaged 10 to 12 tons per acre, while the main crop averaged 8 tons. There was difficulty in securing the crop, due to the late grain harvest, while early frosts caused some damage. *Turnips* were plentiful and could yield 30 tons or more to the acre; the quality was good; the young plants came away at once, and with the moist summer they never suffered a check in the growth. *Insects*—No reports of insect pests. *Weeds*—Annual weeds were somewhat troublesome and difficult to overcome in the turnip crop. *Pastures* yielded an abundance of feeding; the quality would be lacking, as there was little sunshine during the grazing season. *Live Stock*—Stock on the whole thrived well on the pastures. All stock was free from disease in this district. *Clip of wool*—Wool clip slightly over an average yield.

PERTSHIRE (Eastern District). *Wheat*—Good crop, but much of it damaged in the stook; yield about 32 bushels per acre; seed, 3 to 4 bushels per acre. *Barley*—Good average crop; yield about 38 bushels per acre; seed, 3 to 4 bushels per acre. *Oats*—Light crop of both grain



and straw; yield about 36 bushels per acre; seed, 4 to 6 bushels per acre. *Harvest*—About three weeks later than usual in starting, and very protracted owing to broken weather. *Hay*—A thin crop, deficient in clover, but generally well secured; yield about 25 cwt. per acre. *Meadow-hay*—Very little grown. *Potatoes*—Fully an average crop, yielding about 7 tons per acre; very little disease, but a considerable acreage was destroyed by a severe frost in end of October. *Turnips*—A disappointing crop; roots small, but of good quality; yield about 16 tons per acre. *Insects*—About the usual damage. *Weeds*—About the usual damage. *Pastures*—In June, July, and August they were very good, but got rapidly bare afterwards. *Live Stock* thrived satisfactorily. Cattle and sheep free from disease. *Clip of wool*—Very good; over average.

**PERTSHIRE (Central District).** *Wheat*—This district is not a wheat-growing area. This year, however, a larger break was sown as the straw was wanted for covering potato pits. The wheat did not suffer from drought, and the straw and grain were a full average—about 36 bushels per acre. *Barley*—The crop on the whole was good, and the acreage sown was above the usual. The yield would be about 36 bushels per acre, weighing from 50 to 55 lb. to the bushel. *Oats*—The quality of the grain cut in August and early September was good, and it threshed out well. Yield about 36 bushels to the acre on an average. *Harvest*—The grain harvest was started in August, but was interrupted by the heavy rains during the month of September. A good deal of damage occurred on account of the delay in securing the crop. The grain on some farms became discoloured, and the loss was considerable. *Hay* was of good quality and was secured in good order, and the yield was about the average. *Meadow-hay*—The yield was fairly satisfactory, and on some farms better than last year. *Potatoes* progressed fairly satisfactorily throughout the season. The average would be from 9 to 12 tons per acre. The crop was free of disease. *Turnips*—The yield on the whole was about the average. Swedes kept very well. Weight from 18 to 24 tons per acre. *Insects*—No damage to any extent. *Weeds* were plentiful and difficult to keep down. *Pastures* were very good. *Live Stock* generally thrived throughout the year. Cattle and sheep were free from disease. *Clip of wool*—A full average.

**PERTSHIRE (Highland District).** *Wheat*—No wheat sown in the district. *Barley*—Much less land under barley; crop very disappointing, owing to the sunless season; very late in ripening, and when harvested quality of grain poor; about 30 bushels per acre. *Oats*—A fair average crop in bulk, but very late in ripening owing to the late season; although straw seemed good the grain did not ripen; quality on the whole poor and light in weight, and turnout under an average; 34 bushels per acre. *Harvest*—Much later than usual, at least five weeks; general about the end of September, and at that date much of the crops were cut very green. *Hay*—A fair average; 35 cwt.; some difficulty in securing owing to want of sun and the showery weather; good mixture of ryegrass and clover. *Meadow-hay*—Much more productive than the previous year, and somewhat late and difficult to win; secured all over in fair condition. *Potatoes*—Fully over the previous year in bulk and size; about 8 tons per acre of ware; quite free of disease; several new varieties introduced which bulked well, but of poor quality for table use; owing to early frost in October there were losses before being lifted. *Turnips*—Slightly under the average of the previous year in size, giving a less bulk per acre; 20 tons; quality very good; crop braided well; no second sowing required. *Insects*—No injury from insects, but many promising crops

suffered after singling from the depredations of rooks. *Weeds*—No injury from weeds, but “quicken” and “rack” very difficult to get rid of for securing a good tilth for the seed. *Pastures*—Of good growth and quality; much more abundant than last year, with less feeding quality owing to the cold and sunless season. *Live Stock*—Stock did well throughout, but were slow in flesh forming with feeders, and quantity of milk less with dairy stock. All cattle and sheep free from disease, but the district suffered from having to keep them for a much longer period owing to the markets being closed by instructions due to foot and mouth disease. *Clip of wool*—Quality of wool very good, and the clip fully over an average.

**FORFARSHIRE (Western District).** *Wheat*—Although some good crops, many fields thinned out considerably in winter, and the crops as a whole were deficient; say 36 bushels per acre; straw, owing to bad harvesting conditions, not up to usual standard; seed, 3 to 4 bushels. *Barley*—Unless for some fields of early barley the crop was good, with over 40 bushels of grain; generally, however, the sample wanted bloom and the grain wanted weight and was difficult to market; we hear of bags having to be sewn up instead of tied, and even of requiring three bags for the quarter; seed, 3 to 4 bushels. *Oats*—Much the same remarks apply to the oat crop—52 to 54 bushels; the bulk of the straw middling, with a proportion very bad; seed, 4 to 7 bushels, according to variety. *Harvest*—The harvest began a little later than usual, and dragged on for nearly a couple of months. *Hay*—Was not a heavy crop generally—much the same as last year—about 34 cwt., but much of it not so well got. *Potatoes*—8 tons easily, with very little disease; frost played havoc with some fields; meantime, no inquiry for them. *Turnips*—Turnips generally braided well; the crop did not appear to be big about September, but thereafter roots grew considerably and were a good crop, especially yellows; say 18 to 20 tons. *Insects*—Rooks and rabbits are the “insects” that give us most bother; the former take their yearly toll of turnips, and over 300 of the latter have been taken off one field in this district. *Weeds*—Owing to dry weather weeds were easily managed. *Pastures*—Good average growth, and all stock thrive well. Cattle and sheep free from disease. *Clip of wool*—Average.

#### ABERDEEN DISTRICT.

**FORFARSHIRE (Eastern District).** *Wheat*—A very useful crop of both grain and straw; grain 40 bushels and straw 30 cwt. per acre; some fields on the later farms damaged at harvesting; seed,  $3\frac{1}{2}$  to 4 bushels per acre, drilled in. *Barley*—A good crop all over, but greatly damaged in the harvesting through sprouting and heating, more than one half of the crop having to be sold for feeding purposes; yield, 40 bushels of grain and 18 cwt. of straw per acre; seed, 3 bushels per acre, drilled in. *Oats*—The best of the grain crops, a fine yield of grain, 52 bushels per acre with 25 cwt. of straw; fodder very good quality, and mostly secured in better order than either wheat or barley; seed, 6 bushels per acre, sown 3 bushels broadcast and 3 bushels drilled in across the first seeding. *Harvest* commenced on the 23rd August—just about the usual time—but did not finish on many farms until the middle of October, a six to seven weeks harvest. *Hay*—Crop similar to last year; about 1 ton 15 cwt. per acre, and of very variable quality. *Potatoes*—Excellent 7 to 8 ton crop; no disease to any extent, but a proportion damaged badly by frost before lifting concluded; of the new varieties

"Tinwald Perfection" has been planted fairly extensively, and with excellent results everywhere. *Turnips*—The turnip crop braided well, and came quickly and regularly to the hoe; did not do much good all summer owing to want of moisture; then with the autumn rains both yellows and swedes came away with a rush and the crop was exceedingly good at 25 to 30 tons per acre. *Insects*—No injury. *Weeds*—The only damage was through "skellies," especially amongst lea oats, the weather during the summer months being very favourable to the "skelly" growth. *Pastures*—A fine grazing season; plenty of pasture for both cattle and sheep everywhere. *Live Stock*—All stock thrived very well. Sheep very healthy, but Forfarshire badly hit through the foot and mouth disease outbreak, which hampered farmers over a wide area in their business. *Clip of wool*—A good average clip, with wool of very good quality.

KINCARDINESHIRE. *Wheat*—Crop promised splendidly, but not properly matured owing to want of sunshine; 40 bushels per acre; seed, 3 to 4 bushels. *Barley*—Fair crop and fairly well harvested; 45 bushels per acre; seed, 5 bushels. *Oats*—Bulky crop; 45 bushels per acre. *Harvest*—Late in beginning—towards end of September—but not protracted, except on high grounds. *Hay*—30 cwt. per acre; varied very greatly. *Meadow-hay*—Almost none in this county. *Potatoes*—Good average yield. *Turnips*—Good crop; some second sowing. *Insects*—Not injurious to any extent. *Weeds*—No injury. *Pastures*—Grass not very plentiful, and very late in coming. *Live Stock* thrived very well. Cattle and sheep free from disease on the whole. *Clip of wool*—A full average.

ABERDEENSHIRE (Buchan District). *Wheat*—None grown. *Barley*—36 bushels per acre; quality of grain and straw much below the average; owing to the sunless summer and wretched harvest weather much of the crop was badly destroyed before being secured; seed sown, 4 bushels per acre. *Oats*—44 bushels per acre; crop was above the average in quantity, but the quality was inferior; straw was soft and wet; grain mixed with unripe particles; seed about  $6\frac{1}{2}$  bushels per acre. *Harvest*—Owing to second growth being very common the crop ripened unequally; harvest was from two to three weeks late in beginning. *Hay*—Hay crop, as regards both ryegrass and clover, was satisfactory and superior to last year; about  $2\frac{1}{2}$  tons per acre; good quality. *Meadow-hay*—Rather more productive than last year. *Potatoes*—7 to 8 tons per acre, or about 1 ton better than last year; no disease; new varieties not much used. *Turnips*—Turnip crop about 14 to 15 tons per acre; not so satisfactory as last year, either in quality or quantity; the crop braided unequally, but not much second sowing was required. *Insects*—Crops not injured by insects to any appreciable extent. *Weeds*—Owing to the wet season "dirty" land was not easily cleaned; knot-grass was prevalent in most places; the damage was rather above the average. *Pastures* above average growth. *Live Stock* did not thrive so well on pasture as last year. Cattle and sheep free from disease. *Clip of wool*—An average one.

ABERDEENSHIRE (Central District). *Wheat*—No wheat grown. *Barley*—30 bushels per acre—same as last year; straw, 22 cwt. per acre—5 cwt. more than last year; quality of both grain and straw very much inferior to that of last year. Natural weight of grain per bushel from 48 lb. to 55 lb.; seed sown, 3 to  $3\frac{1}{2}$  bushels per acre where drill-sowing machine used; 4 bushels per acre where broadcast sowing machine used or sown by hand. *Oats*—36 bushels per acre—1 bushel more than last year; straw, 18 cwt. per acre— $4\frac{1}{2}$  cwt. more than last year; quality of both grain and straw very much inferior to that of last year. Natural bushel-

weight, 41 lb. per bushel on an average, but ranging from 33 to 44 lb.; seed sown: potato and all thin-husked varieties,  $4\frac{1}{2}$  to 5 bushels per acre where drill-sowing machine used; 6 to  $6\frac{1}{2}$  bushels per acre where broadcast sowing machine used or sown by hand; all thick-husked varieties from 2 to  $2\frac{1}{2}$  bushels per acre extra. *Harvest*—Generally a month later than last year. Bere and barley harvest commenced about 14th September; oat harvest about 20th September. All harvesting work was much protracted; weather wet, dark and sunless, with some nights a degree or two of frost in late and low-lying districts. Cereal crops ripened unequally, consequently there was a much larger proportion of green, light, and undeveloped grains than in a normal year. *Hay*—26 cwt. per acre—8 cwt. more than last year; quality not so good as last year, and not generally so well mixed with clover. *Meadow-hay*—17 cwt. per acre—5 cwt. more than last year; quality not so good. *Potatoes*—About 6 tons per acre—same as last year. No disease reported; quality not so good as last year. The crop generally contained a very much larger proportion of smalls than in a normal year. No new varieties reported; "Arran Chief," "Kerr's Pink," "Dalhousie," "Main Crop," "Sutton's Abundance," "Up-to-date," "Kepplestone Kidney," "Golden Wonder," were all planted as general field crop, "Ashleaf," and "Duke of York," being favourites for early garden and plots. *Turnips*—15 tons per acre—3 tons more than last year. The crop braided well, no second sowing being reported. *Insects*—No injury to crops by insects reported. *Weeds*—No injury to crops by weeds reported. Chick, yarrow, &c. (surface weeds), on account of the dark wet season were rather more in evidence than a normal year, but scarcely to an extent to be termed injurious. *Pastures* were perhaps the most normal crop of the year, and were of rather more than average growth, but considered scarcely so good quality as last year. *Live Stock* rather slower to grow and mature than last year, but on the whole throve fairly well. Cattle and sheep have been free from disease. *Clip of wool*—About an average, but scarcely of as good quality as last year.

**ABERDEENSHIRE** (Strathbogie District). *Barley*—There was a very small acreage of barley grown in Strathbogie last season, and it was just as well, as the weather during summer being cold, wet, and sunless, did not suit the cereal. The crop yielded most unsatisfactory results both as regards quantity per acre and weight per bushel. The yield of grain may be stated at about 28 bushels, and the weight ranged all the way from 46 to 51 lb. per bushel, with little reaching the latter figure. An early frost did considerable damage to the crop, and much of it was cut in a very green condition. *Oats*—The remarks regarding barley apply to the oat crop. There was only a very small proportion of the crop properly ripened, and by far the larger portion was reaped very green and late in the season, it being close on the Martinmas term before all was secured, and very little in even what could be termed fair condition. The general yield may be stated at about 30 bushels per acre, and the weight ranges from 33 to about 40 lb. per bushel for the very best of the grain. Much of the crop has been too light and out of condition for selling. As a matter of fact millers would not look at it, and it had to be sold for feeding purposes at such low prices as 18s. to 20s. per quarter of 3 cwt. Many farmers will have to purchase all their seed to be used for the ensuing season. *Harvest* was very late, probably three weeks behind the usual time, and during the whole period progress was slow and continued on till near the term. This was the result of the awful weather, about the worst ever experienced by the oldest farmers. The *Hay* crop was light, and difficulty was found in getting it cut, cured, and carried to

the stackyard in anything like satisfactory condition. The bulk generally was about two-thirds of the usual crop. *Potatoes*—The potato crop was far from satisfactory, being only about one-third of last season. The tubers were not only small in the run but also few at the stem, and altogether of a somewhat soft condition. Very few potatoes are grown for sale in the district. It has to be noted that the variety "Golden Wonder" is being introduced into the district, but as yet on only a few farms. *Turnips*—Like other crops the turnip crop was light, and will all be required before the stock can be turned outside. The plants came away all right, but owing to the abnormal season the roots did not mature to nearly an average crop. Owing to the open season farmers got the good of the tops, and this has helped to eke out the supply throughout the season. *Insects*—There was no damage caused by insects. *Weeds*—There being no unusual crop of weeds to handle there was no damage. *Pastures*—Grass was fairly plentiful during the grazing season, but stock did not do so well as in a more propitious season. Most cattle were housed in a leaner condition than is usually the case. *Live Stock*—It was generally remarked at the sales of store lambs that they were not in the condition they appeared in last season. Cattle and sheep free from disease in this district. The *clip of wool* was satisfactory as regards weight, and the quality was just an average.

BANFFSHIRE (Lower District). *Wheat*—Practically none grown. *Barley*—From 35 to 40 bushels per acre; grain of only fair quality—53 to 56 lb. per bushel; seed sown, 4 to 5 bushels per acre. *Oats*—About 40 bushels per acre and 25 cwt. straw; quality fair. *Harvest* later than usual; on early farms began on second week of September and completed about end of October, but it was well into November before the later farms finished. *Hay*—About 40 cwt. per acre, and of good quality; a heavier crop than last year by about 10 cwt. per acre. *Meadow-hay*—Practically same as last year. *Potatoes*—Poorer crop than last year; quantity from 5 to 7 tons per acre; no disease. New varieties planted were "Di Vernon," "Kitty Glover," and "Catriona." *Turnips*—Quantity about 25 tons against 30 last year; quality good; finger-and-toe reported in some districts; crop braided well; very little second sowing. *Insects*—No injury from insects. *Weeds*—Knot-grass gives most trouble in the district, and it seemed to be more abundant this year, the land being more difficult to clean owing to wet weather. *Pastures* did fairly well; fully above average. *Live Stock* did fairly well on them. Cattle and sheep free from disease. *Clip of wool*—Quality good; about average.

BANFFSHIRE (Upper District). *Wheat*—None grown. *Barley*—About the usual area sown; yield variable but mostly extremely light and therefore unfit for distillery; distillers have imported most of their supplies, principally Danish. *Oats*—Crop considerably deficient as to grain except in a small area on the earlier farms; on many hillside farms a great deal not worth threshing, and much of the oatmeal will have to be imported, and also seed oats for next crop. *Harvest* unusually late, starting generally from middle of October onwards; crops very far from maturity owing to the unfavourable and late seed-time and cold sunless summer. *Hay* crop also deficient in quantity and wanting in clover. *Meadow-hay* of no account; natural grass mostly pastured as the ordinary sown grasses get bare. *Potatoes* only grown for home use; they also suffered from the cold season and were much under an average crop. *Turnips* did not grow to size, and were only a fair half-crop; swedes lagged much in the braiding stage and never regained lost time; there were some patchy sowings a second time. *Insects*—The turnip fly was at

work for some weeks and wrought the damage stated above. *Weeds*—The usual drill harrowings or skimming did not tell effectively owing to the wet season, and knot-grass, wild mustard, and yarr was not easily kept down. *Pastures* faded early, and there was very little aftermath or second crop on the hay fields. *Live Stock*—Cattle and horses did not improve in the proper ratio during the grazing season. There were a few cases of "grass disease," and a few horses died; Vets. seem powerless to prevent or cure this disease meantime. *Clip of wool*—Wool about the usual.

#### INVERNESS DISTRICT.

**MORAYSHIRE.** *Wheat*—Very little grown; head smaller than last year, attributed to less sunshine; yield per acre about 20 cwt. grain and 35 cwt. straw. *Barley*—About 16 cwt.; same as last year; straw about 22 cwt., or 4 cwt. more than last year; weight of grain about 54 lb., or 2 lb. under standard; colour good; seed sown,  $1\frac{1}{2}$  to 2 cwt. *Oats*—About 12 cwt., or  $\frac{3}{4}$  cwt. more than last year; quality good; weight per bushel about 41 lb., or 1 lb. under standard; quality of straw good, quantity about 30 cwt., or half as much again as last year; seed sown, 2 to 3 cwt. according to variety. *Harvest*—About fortnight later than usual; started beginning of September, and with broken weather dragged on for many weeks. *Hay*—About 26 cwt. per acre, or 6 cwt. more than last year; well mixed and secured in good order. *Meadow-hay*—Little grown; heavier than last year. *Potatoes*—About 6 tons, or 1 ton more than last year; no appreciable disease. *Turnips*—About 25 tons, or 7 tons more than last year; quality excellent; crop braided well, and little second sowing required. *Insects*—No noticeable damage. *Weeds*—No noticeable damage. *Pastures*—More plentiful than last year, and quality excellent. *Live Stock* thrived well. Cattle and sheep free of disease; there were cases of "grass-sickness" among horses. *Clip of wool*—Average, both as to quality and quantity; the "rise" was a little earlier this year.

**NAIRNSHIRE.** *Wheat*—Not grown to any extent. *Barley*—34 bushels per acre; average quality; straw bulked better than last year; 5 to 7 bushels sown. *Oats*—30 bushels; a poor crop both as to grain and straw. *Harvest* began a month later than usual. *Hay*—Rather better than last year as to ryegrass, but clover deficient in quantity. *Meadow-hay*—None cut. *Potatoes*—5 to 6 tons per acre; good quality; no disease. *Turnips*—18 tons per acre; only one sowing but braided very slowly; finger-and-toe caused loss on some farms. *Insects*—No injury. *Weeds* seemed more in evidence than usual. *Pastures*—Better than last year. *Live Stock* thrived well. Cattle and sheep free from disease. *Clip of wool*—An average clip.

**INVERNESS-SHIRE (Inverness District).** *Wheat*—Neither quantity nor quality of grain up to last season, but straw considerably more abundant; say 40 bushels per acre; quality fair; weight per bushel say 59 lb.; straw 34 cwt. per acre; seed sown, 4 to  $4\frac{1}{2}$  bushels per acre. *Barley*—Quantity and quality of grain below last season; straw more bulk; say 36 bushels; weight per bushel 53 lb.; straw 28 cwt.; quality fair; quantity sown, 4 bushels per acre. *Oats*—Say 38 bushels per acre; weight per bushel, 40 lb.; straw 28 to 30 cwt. per acre; seed sown, according to variety and altitude, 4 to 8 bushels per acre. *Harvest* after usual time by nearly a month. *Hay*—Quantity and quality about an average; say 25 cwt. per acre. *Meadow-hay*—Practically none grown.

*Potatoes*—Slightly under last year; about 6 to 7 tons per acre; no disease, but crop slightly touched by frost just before lifting commenced. *Turnips*—Turnip crop much the same as last year; say 22 tons per acre; braided regular; no second sowing. *Insects*—No damage. *Weeds*—Much about usual. *Pastures*—Average growth. *Live Stock*—Quite up to an average season. Cattle and sheep free from disease. *Clip of wool*—About usual clip.

INVERNESS-SHIRE (Skye). *Wheat*—None grown. *Barley*—None grown. *Oats*—Grain much better than last year; straw fair bulk; on clayish land, however, the crop was very poor; harvested in fair condition. *Harvest* began about 2nd October, being about three weeks later than the previous year. *Hay*—Ryegrass a fair crop and well secured; clover not a success. *Meadow-hay* a good crop and well secured. *Potatoes*—A good average crop; best quality that this generation has seen in Skye. *Turnips* a good sound crop. *Insects*—No injury. *Weeds* not more injurious than usual. *Pastures*—Slow growth up to end of July; after that very good. *Live Stock* thrived well; sheep in good condition in autumn, but lambs were generally smaller. Cattle and sheep free from disease. *Clip of wool*—An average clip.

INVERNESS-SHIRE (Lochaber). *Wheat*—None grown. *Barley*—None grown. *Oats*—Grain less than last year but straw bulkier; 6 bushels per acre sown. *Harvest*—Later by ten days than last year. *Hay*—15 cwt. per acre heavier than last year. *Meadow-hay*—Very good; a heavier crop all round. *Potatoes*—Only a fair crop all round, and small; no disease. *Turnips*—In many places turnip crop a failure through finger-and-toe; remainder only a fair crop; crop braided well but wanted warmth; no second sowing required. *Weeds* much more numerous, and could not be kept down; damage accordingly much greater. *Pastures*—A much better grazing season, but backward at beginning of season. *Live Stock* thrived well. Cattle and sheep free from disease. *Clip of wool*—Quality very good, and heavier.

ROSS-SHIRE (Dingwall and Munlochy). *Wheat*—Not many acres sown; quality of grain and straw good; yield, 4 to 5 quarters per acre; seed sown, 3 to 4 bushels per acre. *Barley*—Quality of grain not up to average; quantity good; yield, 30 to 44 bushels per acre; quality and quantity of straw good, but both grain and straw were damaged by bad weather; seed sown,  $3\frac{1}{2}$  to  $4\frac{1}{2}$  bushels per acre. *Oats*—A very fine crop of both grain and straw, but both damaged by weather; yield, 48 to 72 bushels per acre; seed sown, from  $3\frac{1}{2}$  to 7 bushels per acre, according to variety. *Harvest* began about four weeks later than usual, but owing to wet and lack of wind to dry and mature, grain and straw much damaged. *Hay*—Quality very good; quantity more than last two years; most crops weighed over 2 tons per acre. *Meadow-hay*—None grown. *Potatoes*—From 5 to 7 tons per acre; very little disease; no new varieties planted. *Turnips*—On most farms the turnip crop was good; weight of swedes, 20 to 30 tons per acre; yellows, 15 to 28 tons per acre; crop braided well; very little resowing required. Crows destroyed a great many acres by pulling up plants after they were thinned. *Insects*—No injury. *Weeds*—No damage done. *Pastures* were abundant all season. *Live Stock* thrived very well. Cattle and sheep quite free from disease; foot-rot in sheep was prevalent in the autumn, owing to the wet weather. *Clip of wool*—Quality of wool good; quite up to average.

ROSS-SHIRE (Tain, Cromarty, and Invergordon). *Wheat*—Average about 32 bushels per acre, being about 8 bushels less than last year; quality fair; average sown, 4 bushels per acre; season too cold for this crop. *Barley*—Average about 32 bushels per acre, being about 8 bushels less than last year; quality fair; average sown,  $3\frac{1}{2}$  bushels per acre; not enough sun for this crop. *Oats*—Average about 56 bushels per acre, being about 4 bushels less than last year; quality good, but colour a bit off owing to long protracted harvest; quantity sown, 4 to 6 bushels per acre, according to variety. *Harvest*—Began very late; was not general until 20th September; fully three weeks behind usual. *Hay*—Average crop, about 30 cwt. per acre. *Meadow-hay*—None grown. *Potatoes*—7 tons per acre, being  $\frac{1}{2}$  ton better than last year; no disease; hardly any new varieties planted. *Turnips*—Swedes would average about 23 tons per acre and yellows about 18 tons; some fields a failure owing to finger-and-toe; some patches pulled out by crows after being singled. *Insects*—No damage by insects. *Weeds*—Charlock in some fields always does a certain amount of damage. *Pastures* were very good all through, but stock of cattle not so heavy as usual. *Live Stock* thrive well. Quite a number of horses died from "grass-sickness"; this disease appears to be making headway in this district, where until the last year or two it was almost unknown; no disease among cattle and sheep. *Clip of wool*—An average.

SUTHERLANDSHIRE. *Wheat*—No wheat grown. *Barley*—Quantity of straw above the average; grain good, notwithstanding dark cold season; average about 4 to  $4\frac{1}{2}$  quarters per acre; seed sown, about 4 to  $4\frac{1}{2}$  bushels per acre. *Oats*—Quantity of straw above the average of the past few years; the soil in these parts being generally light, it responds to a rainy season, and suffers much when the summer is hot; thick-skinned varieties threshed 6 to 7 quarters per acre; "Potato" and "Hamilton" from 4 to 5 quarters per acre; sandy oats, lighter yield,  $3\frac{1}{2}$  to 4 quarters per acre. *Harvest*—Cutting commenced about 20th September, about three weeks later than usual, and continued under very trying conditions until about the 10th October, this being probably the latest date on which cutting was still to do since 1903—that is, on the larger farms; the leading was much more successful, and on most farms everything was secured before the end of October; the weather in October was very fine, although far too close and warm for harvesting; very little heating of stacks notwithstanding. *Hay*—Crop probably below the average; clovers much less abundant than last year; on some farms crop might average from 30 to 35 cwt. per acre, but the general average was much below that; crop secured in fair condition, weather broken at that time. *Meadow-hay*—No meadow-hay on this side of the county, but a light crop where any is kept. *Potatoes*—Crop below the average and considerably less than last year; many more small ones, but crops quite healthy; experimenting with new varieties, but not yet to any extent—"Arran Chief" favourite and a good cropper; average yield, probably 4 to 5 tons per acre. *Turnips*—Yellows a good crop generally and above the average; yield, from 15 to 22 or 23 tons per acre, the latter weight being exceptional; swedes not such a good crop generally as last year, but healthy and sound; probable yield, from 20 to 25 tons per acre; braided quite satisfactorily, with practically no second sowing. *Insects*—No appreciable damage by insects; in some cases pigeons very hard on the young plants, picking many of them quite out by the root; great difficulty in keeping them off where woods are close by. *Weeds*—Damage by weeds perhaps above the average, on account of wet and consequent difficulty in cleaning ground; knot-grass, as it is called in these



parts, most difficult weed to deal with. *Pastures*—Not so good generally as last year; clover in most cases much less abundant; odd fields did quite well, but in most cases very ordinary pastures. *Live Stock* thrive fairly well, but too dark and cold a season for anything more than average results. Cattle and sheep have been quite normal in the matter of disease; grass disease among horses made its appearance again towards the end of the season, the last cases being as late as the end of September, and died towards the end of October. *Clip of Wool*—An average clip, of good quality.

**CAITHNESS-SHIRE.** *Wheat* was tried long ago, but given up as risky owing to cold climate. *Barley* is grown to a limited extent, not two per cent of the cultivated area; this year the conditions at seed-time were favourable; about 40 bushels per acre; seed, 4 bushels. *Oats* form the main grain crop, the straw being suitable for fodder, and the grain is the chief food for horses and feeding cattle and sheep; when drilled, 3 bushels or so are sown; when broadcasted, 5, 6, 7, or 8 bushels, yielding 3 to 12 quarters per acre. *Harvest* was three or four weeks later; cutting began generally about second week of October, and lingered over weeks; the weather proved very changeable, and securing the grain crop was very critical; some of the first in, heated, much had to be built in small screws on the field, and the work was prolonged and tedious, the last in was best. *Hay*—The hay crop was heavy all over; it was well mixed with clovers, yielding 2 to 3 tons per acre, and was secured in very good condition. *Meadow-hay* was also a good yield and well fitted for fodder. *Potatoes*—The potato crop proved plentiful, and disease was not so general as in former seasons; about 8 or 10 tons per acre might be pitted; the new varieties do well, yet "Champions" are desired for their nice flavour, but tubers are often small. *Turnips*—The sunless summer seemed to help a steady growth, and over 20 tons could be carted off the acre. Little or no second sowing was needed. *Insects*—Very little damage was done by insects, and there were no glaring instances of injury by "grub." *Weeds* continue troublesome; spurry chokes the turnip crop, tending to smother it before singling, and the scuffler kills it with difficulty; corn marigold, coltsfoot, and thistles compete with the oat crop. *Pastures* continued in good condition throughout the moist season. *Live Stock* came on well, and prices were encouraging. Tuberculosis prevails among cattle, and fluke in the liver accounts for deaths among sheep; scab seems mostly conquered by the double dipping; anthrax is rare. *Clip of wool*—Wool gave good quality from fairly heavy fleeces, and the demand and prices have improved since last year.

**ORKNEY.** *Wheat*—None grown. *Barley*—Yield, about 28 bushels per acre, weighing about 47 lbs. per bushel; seed,  $3\frac{1}{2}$  to  $4\frac{1}{2}$  bushels. *Oats*—Season was wet, cold, and very late; about half of the oats were sown in April and the other half in May; the first sown was a fair crop, but the late sown was green and very light, and some of it shaken by a gale and hail showers on 2nd November; yield of about three-fourths of the oat crop about 28 bushels per acre, weighing about 36 lb. per bushel; the remainder was green and very light, some of it not worth threshing; there was a good crop of straw; seed, 4 to 6 bushels per acre. *Harvest* began in the second week of October—about three weeks later than the previous year—and finished about the end of November. *Hay* was a light crop, weighing about 15 cwt. per acre. *Potatoes*—Early planted potatoes were a fair good crop, but owing to the wet late spring some were planted late and were small; weight, about 4 tons per acre. *Turnips* were sown in June and some in the beginning of July, and

turned out a fair crop, weighing about 11 tons per acre. *Insects*—Some oats were slightly damaged by grub. *Weeds* grew well, especially thistles on pastures. *Pastures* were fairly good, but much of the abundant clover of the previous autumn was killed out during the winter. *Live Stock* thrived well considering the cold, wet, backward season, and were free from disease. *Clip of wool*—A little under the average.

**SHETLAND.** *Wheat*—None grown. *Bere and Oats*—The grain crops, both bere and oats, cannot be considered a satisfactory crop; the yield of straw was plentiful, but the grain turned out very disappointing; the season right through from the beginning of May was very wet and very little sunshine, so that grain had no chance to fill. The oats in some cases were said to be only 32 lb. per bushel. Oats were sown from the end of March to the first week of May; the later sown oats turned out the better crop. *Harvest* was about three weeks later than usual, and then the crops were hardly ripe. The harvest was secured in fair order, although some had to stand many weeks in stook. *Hay*—Crop was an average one, there being plenty of moisture in the ground to help the growth; in most cases the hay was not stacked for two months after cutting owing to wet weather, but it was secured in fair order. *Meadow-hay* would be considered about an average; much the same as former years. *Potatoes*—Crops where planted early and in wet ground were a complete failure; in many cases it could only be considered a lost crop, although in other parts, where planted a little later in dry ground the crop turned out much better than was expected both for quantity and quality. *Turnips*—Crops turned out about the usual; the quality was good and very little finger-and-toe; only one sowing was required. *Insects*—No damage was done by insects except in the early sown oats, where grub did a little damage. *Weeds*—No damage was done by weeds; charlock, which is generally very plentiful in Shetland, was choked out by the oat crops forcing ahead at that time. *Pastures*—The grass during the season was plentiful, but could not be considered of very good quality. *Live Stock*—Stock did not thrive on pastures so well as in former years, there being too much wet in the ground. Cattle and sheep were free from disease. *Clip of wool*—The quality of wool was good and about the average weight per fleeces.

## THE WEATHER OF SCOTLAND IN 1922.

By ANDREW WATT, M.A., F.R.S.E., Edinburgh.

THIS report consists of (1) a general description of the weather over the Scottish area from month to month; (2) a selection of rainfall returns in which each county in Scotland is represented by one or more stations. It is to be noted that all the temperature readings referred to are, unless otherwise stated, from thermometers exposed in the regulation "Stevenson Screen."

## JANUARY.

The month of December 1921 had been one of remarkable mildness, and brought to an end a year that may be definitely described as the mildest on record for Scotland. During the first day or two of 1922 a south-westerly type of conditions remained in evidence, with unusually high temperatures for the time of year, but with a wind from the north cold weather set in, and much of January was of a wintry character. There were, however, short spells of high, or fairly high, temperature. The chief incursions of cold occurred around 15th and 24th. On the latter occasion, with easterly winds, the cold was much more severe in England than in Scotland.

Relatively to the normal, precipitation varied greatly. Toward north-west there was a decided deficiency; but towards north-east and in the south a very large excess, with fully thrice the average fall for January in some hilly parts of Aberdeenshire and Forfarshire, and also in Wigtownshire. At Aberdeen, where 1921 had been an abnormally dry year, the month was the wettest January since 1903. There were heavy rains on 1st, followed by a short dry spell in eastern districts, and during the third and fourth weeks much of the precipitation was in the form of snow.

There was much stormy weather, especially towards the north. On 3rd a severe snowstorm developed in north-east, spreading south on 4th and 5th. Later, snow in some districts on 13th and 14th was followed by a widespread snowstorm of great severity on 15th, with further heavy falls until nearly the end of the month. There were thunderstorms in the extreme north on 3rd and 10th, and here and there between 18th and 20th.

Towards the north the month was a very cloudy one.

## FEBRUARY.

There was again a good deal of wintry weather, but towards the end of the month a mild spell set in with rather high day temperatures, on 24th  $60^{\circ}$  at Gordon Castle. Around 10th, when the coldest weather of the month was experienced ( $19^{\circ}$  at Eskdalemuir), there was a striking contrast between the north of Scotland and the south of England. Thus the mean temperature for the week ending 11th was  $38.1^{\circ}$  at Aberdeen, but at London (Richmond) only  $34.5^{\circ}$ .

The driest period was from 8th to 12th. Earlier, moderate to rather heavy rains until 3rd had been followed by snow in many districts, but especially in the east, whilst during the third week heavy snowfalls were very general. During the milder weather of the last week rainfall was moderate in the east, but very heavy in the west. At Fort William the 24th was the wettest day of the year (2.75 in.) In general there was a moderate to fairly large excess, but in the extreme north aggregates were below the normal.

The weather was at times extremely stormy. After various snowstorms until 20th many roads in the Central Highlands were blocked, and with heavy rains and melted snow the Tay and other rivers were in high flood at the end of the month. Thunderstorms occurred here and there between 17th and 23rd, and rather widely from 26th to 28th.

The month was, on the whole, a very cloudy one.

## MARCH.

The mild weather which had set in towards the end of February lasted until 17th or 18th March, and as often happens in early spring, with easterly winds, the west of Scotland was at times conspicuous as much the most favoured region in our islands. Thus for the week ending 18th Fort William was warmer than even the Channel Islands. On 19th there was a reversion to a cold wintry type of weather, which persisted for several weeks.

Moderate to heavy rains during the first week were followed by a spell of fine weather, lasting until 18th or 19th, and in west until 22nd; whilst during the last week there were moderate falls of rain, snow, or sleet, though but little in west and south. Over the great part of Scotland the month ranked as a dry or very dry one, though nowhere as dry as March 1918. At one or two points towards the north there was a slight excess.

There were snowstorms in eastern and southern districts from 19th to 21st, and the month closed with very wintry

weather. Local thunderstorms occurred in the west on 1st and 4th.

The prevalence of east winds found its reflection in the sunshine records for the month, eastern districts being much cloudier than western.

#### APRIL.

The very cold type of weather which had set in about 20th March lasted without any effective break throughout the whole of April, and during the last sixty years in Scotland the only Aprils that in any way challenge a comparison for abnormal coldness have been those of 1879 and 1917. Only for a day or two around 20th was temperature moderately high, and possibly the month was unparalleled in spring for the frequency of ground frosts.

Winds from a northerly to easterly point were much in evidence, and the distribution of precipitation was of unusual interest. In the West Highlands there was a well-marked area of deficiency, whilst over the north and north-east of Scotland, and especially in the lower valley of the Spey, there was an abnormally large excess. Over considerable areas aggregates were largely accounted for by heavy rains on 14th and 15th. In north and east the last week was very unsettled, and at Grantown-on-Spey, where the month was the wettest April on record, more than half the total was accounted for during that period. In the west there were many fine days.

The weather was at times stormy, with snow in various districts on 1st, 8th, 14th, and 26th. At the end of the month roads at high levels in the north were blocked with snow. A very severe snowstorm was experienced in parts of Banffshire and Aberdeenshire on 8th, and a less severe one towards the Borders on the night of 25th-26th.

The month was again sunnier in western than in eastern districts; but there were everywhere one or two very sunny days, notably 18th and 19th.

#### MAY.

Temperature remained moderate until about 15th, with one or two very cold days, and at Eskdalemuir Observatory on night of 12th-13th a reading as low as 22°. A south-westerly type of conditions then developed, with almost continuously warm weather for about three weeks (81° at Montrose and Kelso on 31st).

As compared with April, there was a complete reversal of rainfall distribution, with a well-marked deficiency in eastern

districts, but in some north-western districts amounts greatly exceeding all previous records for May. There were heavy to very heavy rains from 3rd to 6th, and on 14th and 15th in west and north-west falls that appear to have been unprecedentedly large for a spring month. Thus at Ardgour 1.30 in. on 14th was followed by no less than 5.14 in. on 15th. No rain of importance fell after 21st, and in Berwickshire the month was the driest May for at least fifty years.

Snow fell at high levels on two or three days. Thunder occurred here and there on 3rd and 4th, and in some eastern districts between 21st and 25th.

There were some very sunny days, notably 29th and 31st ; but in Orkney there was fog throughout 31st, and the month there was the cloudiest May on record.

### JUNE.

Early in the month temperature was high, except towards north-east, and in many districts 1st ( $84^{\circ}$  at Ruthwell), 7th, or 8th was the warmest day of the year. On 13th there was a definite change to a cold type of weather, which was to prove very persistent, with  $30^{\circ}$  at West Linton on night of 13th-14th.

The month's rainfall was rather above the average along the western and northern seaboard, but below it in inland, eastern, and southern districts. The fine spell which had set in about 21st May lasted in most districts until at least the 9th of June, and thereafter conditions were, on the whole, unsettled. There were no notably heavy falls ; but over the greater part of Scotland a large part of the month's rainfall was accounted for on 12th, 18th, 22nd, and 30th. At Ardgour the month's rainfall of 5.67 in., though above the average, was not much more than the twenty-four hours' fall recorded on 15th May.

There was thunder somewhat widely in the east on 24th and 25th, and in some western districts early on 2nd. In west and north the month was very cloudy, but towards south-east moderately sunny.

On 21st fresh snow fell on the summit of Ben Nevis.

### JULY.

The weather was cold throughout, and in only two or three districts did the thermometer reach the moderate level of  $70^{\circ}$ , and in these on only one or two days. The first week was exceptionally cold, and almost throughout day temperatures were very low. Taking a general view, there is no doubt that the month ranks as almost the coldest July in Scotland

during the last sixty years, with 1862 perhaps as cold, and only 1888 definitely colder. The days, indeed, were hardly colder than in July 1920, but in that month the nights were fairly warm.

As regards rainfall, there was a well-defined excess over the eastern half of Scotland, with relatively large amounts in the Border counties and in north-eastern districts, whilst in the extreme north-west and in Ayrshire rainfall was rather below the normal. A great part of the month's fall was in most districts accounted for between 1st and 9th, when wet or very wet weather was general. In north-east especially there were very heavy falls on 6th and 9th. Around 15th there were again some fairly heavy falls, and the last week was in general rather wet.

Between 5th and 9th the weather was stormy, and on 9th and 10th the Spey and other northern rivers were in flood. There were thunderstorms rather widely, with hail in places, on 4th and on 31st.

Except perhaps in the extreme north-west, the month was a very cloudy one, though in many districts much less cloudy than in July of 1920 or 1916. At many places the average daily amount of sunshine was two hours less than in May or June, and in the south of Scotland there was actually less sunshine than in February.

#### AUGUST.

The month was again from first to last extremely cold. It may have been slightly less cold than the August of 1881 or 1885, but a decidedly colder August has been experienced in Scotland during the last sixty years only in 1912. The days were exceptionally cold, and over considerable areas temperature failed to reach the moderate level of 70°. Taking a very general view, the cold of the July-August period seems to have been unprecedented in Scotland during the last sixty years.

The total duration of rainfall appears to have been considerable in many districts; but much of the rain was light and almost misty in character, and there were few very heavy falls, and in the least favoured districts the ground was seldom if ever dry. Aggregates, however, reached the normal only at isolated places in west and north, and in general there was a well-marked deficiency, more notably in the Lower Tay Valley and parts of the Lothians. From 12th onwards rain was rather frequent; but earlier in the month there were everywhere some fine days. On 6th there were local thunder rains, and on 8th fairly heavy falls in southern districts.

For a summer month of generally unsettled character there

were but few thunderstorms, and these only sporadic, and in this respect it differed greatly from the very cold August of 1912.

There was much cloudy weather, especially in the south, but at Edinburgh the month had almost the average allowance of sunshine.

#### SEPTEMBER.

The mean temperature was again distinctly below the normal. During the first week, indeed, there were one or two fairly warm days, but thereafter northerly and easterly winds prevailed, and there was a good deal of very cold weather with frequent ground frosts. The month, however, was much less cold than the disastrous September of 1918. At West Linton the thermometer fell to  $24^{\circ}$  on 10th, and at Braemar to  $23^{\circ}$  on 22nd.

The period from 3rd to 10th was all but rainless in most districts, whilst later the heaviest general fall occurred on 15th. Over the greater part of Scotland aggregates were below the normal, and parts of the West Highlands had hardly more than half the average. Exceptionally, there were wet areas towards north-east and south-east, largely as a result of rather persistent rains, which arrived with south-easterly winds during the last five days of the month, with heavy falls in Aberdeenshire on 26th.

There was, as in August, a singular absence of thunderstorms, though thunder occurred locally in the west on 19th, and here and there on 13th.

The month was a cloudy one, except towards the north-west. Over a great part of the country the frequency of rain, coupled with the absence of sunshine and a high humidity on many days, rendered the period from 12th onwards very unfavourable for harvesting operations.

On 18th snow lay on Ben Nevis down to the 2000-ft. level.

#### OCTOBER.

The outstanding features were the great prevalence of easterly winds; the contrast between eastern coastal districts and the western and southern parts of Scotland; and the high level at which the barometer stood during a great part of the month. Roughly, the first half of the month was mild, and the latter half cold or very cold, with touches of quite wintry weather in north and south during the last few days. The actual extremes of temperature were, however, not specially noteworthy, ranging from  $70^{\circ}$  at Kelso on 14th and 15th to  $16^{\circ}$  at Braemar on 31st.



Rain was general during the first few days and again on 11th and 12th; but the period from 13th to 30th was brilliantly fine in western and southern districts. On 31st there was a general breakdown, with a severe thunderstorm in north-west and at Ullapool as much as 3.16 in. of rain. But for falls on 31st aggregates would have been notably small. As it was, they were everywhere much below the normal, with less than half the average in some northern and western districts.

Generally, there was a wide difference between the experience of eastern and western districts. Various observers in west and south described the month as exceptionally fine, calm and sunny, and highly favourable to agricultural operations. In some eastern and north-eastern districts, on the other hand, "wet and cold" would be a fair description of at least the last two weeks, and there were places where hardly any crops were secured.

Snow during the last few days was rather local in character, but in some upland districts it lay to the depth of several inches.

#### NOVEMBER.

The cold weather of the latter half of October was prolonged during the first few days of November, with snow in many places, and considerable drifting in some north-eastern districts. There then set in in Scotland a spell of mild weather, which was to prove very persistent, with westerly winds over our area, much cloud in the west, and, for late autumn, a liberal allowance of sunshine in eastern districts. The weather was at this time cold and foggy in the south of England, and during the week ending 18th November, for example, conditions were milder in Edinburgh than in the Isle of Wight or Jersey, and London was distinctly colder than Balmoral.

On 15th the barometer at Edinburgh rose to a higher level (30.8 in.) than in any other November for at least sixty years; the mean pressure of the month was the highest in November since 1901; and the high pressure for the October-November period has been definitely exceeded only in 1879, though it was equalled in 1897.

At one or two points in the west the month's rainfall fully equalled the normal; but in general there was a decided deficiency—in various districts for the fourth month in succession. The shortage was most conspicuous towards the Borders, and Jedburgh, for example, had only about half an inch, or hardly more than one-fifth of the average November rainfall. During the first ten days there was a good deal of rain except in the extreme south-east, with rather heavy falls in the west on 5th or 9th; whilst from 11th to 19th there was

very little rain towards east and south—at some places none—with frequent though moderate falls elsewhere.

A severe gale was experienced in the north on 1st and 2nd, and further gales on 10th and 23rd. Snow fell in many places during the first few days, with considerable drifting in some north-eastern districts, and a little again in north-east between 24th and 27th. Thunder locally in west on 2nd.

In east and south the month was very sunny, but elsewhere cloudy.

#### DECEMBER.

During the first half of the month there was a continuance of the very mild weather which had characterised the latter half of November, but after 15th temperature differed little from the normal, and occasional touches of wintry weather were of brief duration. The absence of really wintry weather of any considerable duration during the last few weeks of 1922 is reflected in reports, by numerous observers, of unusual appearances in field and garden.

The general rainfall of the month was below the normal—in various districts for the fifth month in succession—though here and there in extreme north and south there was a moderate excess. In the west rain days were numerous, but very heavy falls were comparatively rare, though, for example, Ardgour had as much as 2.84 in. on 12th, or more than the rainfall at Edinburgh for the entire month. During the first two weeks eastern districts experienced dry weather, whilst later they shared in generally wet conditions, with rather heavy falls on night of 29th.

Though snow, hail, and sleet were comparatively frequent during the latter half of the month, there was nothing approaching a general snowstorm. Thunder was of very frequent occurrence in western districts during the last ten days, though visitations appear to have been, for the most part, somewhat local in character.

The month was, on the whole, cloudy.

#### *General Note.*

The outstanding features of the weather of 1922 were the very cold April, the cold and rather cloudy summer, and the prevalence of mild conditions towards the end of the year. The infrequency of thunderstorms during the summer may also be noted. Over much the greater part of Scotland the year's rainfall was rather below the normal; but at Aberdeen, for example, there was a slight excess, and an aggregate of 30.36 in. compared with only 16.67 in. for 1921, which had been by far the driest year on record at that place.

# RAINFALL RECORDS FOR 1922 IN INCHES.

	Jan.	Feb.	Mar.	April.	May.	June.	July.	Aug.	Sept.	Oct.	Nov.	Dec.	Year.
<b>Shetland—Lerwick</b> . . . . .	3.78	3.22	2.37	2.19	3.55	1.51	4.01	4.42	4.15	1.84	4.80	3.84	39.98
<b>Orkney—Deerness</b> . . . . .	2.95	1.98	2.25	3.26	1.82	1.82	3.00	2.48	2.76	1.98	2.90	4.96	32.45
<b>Calthness—Wick</b> . . . . .	3.27	1.89	1.98	3.41	1.83	1.81	3.16	2.05	2.81	1.54	2.67	2.38	28.41
<b>Sutherland—Tongue</b> . . . . .	3.78	1.65	2.86	4.41	2.92	3.50	2.20	2.75	2.25	2.39	3.03	3.23	35.17
<b>Dornoch</b> . . . . .	2.70	2.04	1.75	2.19	2.41	1.74	2.61	2.18	2.92	.96	1.36	1.22	22.84
<b>Ross and Cromarty—</b>													
<b>Fortrose</b> . . . . .	2.70	1.41	1.36	1.39	2.48	.64	1.55	1.91	1.42	1.51	1.19	1.33	18.64
<b>Ardrross Castle</b> . . . . .	4.16	4.00	2.39	4.01	3.80	1.04	3.30	2.16	1.98	2.72	2.88	3.75	35.69
<b>Lochcarron</b> . . . . .	6.76	7.97	4.92	4.26	9.65	5.31	5.86	4.36	3.23	3.73	7.56	8.20	71.51
<b>Stornoway</b> . . . . .	5.83	5.36	3.13	2.56	4.86	2.73	2.56	4.32	2.76	3.06	3.74	5.88	47.09
<b>Inverness—Carrbridge</b> . . . . .	2.96	2.53	2.79	4.11	1.49	1.32	3.23	2.11	1.59	1.91	2.06	2.28	28.41
<b>Kingussie</b> . . . . .	4.28	3.04	2.17	2.70	2.03	1.95	3.87	2.07	1.17	1.78	1.78	3.47	30.01
<b>Glenquoich</b> . . . . .	11.85	10.78	4.75	4.87	13.73	6.09	6.29	5.96	5.66	4.04	10.74	16.58	101.94
<b>Fort William</b> . . . . .	1.46	10.81	4.40	2.54	11.86	4.00	5.13	4.93	3.54	4.92	6.27	9.68	73.39
<b>Nairn—Nairn (Dolniet)</b> . . . . .	1.50	2.15	1.50	2.33	1.94	1.51	2.58	2.79	1.74	1.69	1.66	1.26	23.23
<b>Moray—Gordon Castle</b> . . . . .	2.78	2.32	2.00	4.07	1.46	1.60	3.77	2.78	2.60	1.34	2.48	1.44	29.14
<b>Grantown</b> . . . . .	2.72	1.92	3.06	5.04	1.54	1.42	3.95	3.02	1.84	2.06	2.13	1.86	30.56
<b>Banff—Banff</b> . . . . .	3.62	2.31	1.44	3.43	1.50	2.28	3.30	1.79	2.10	1.56	2.61	1.55	28.18
<b>Aberdeen—Fyvie Castle</b> . . . . .	5.22	2.59	3.22	3.73	1.80	2.01	3.40	2.27	2.41	2.16	2.85	1.90	32.55
<b>Peterhead</b> . . . . .	2.75	1.80	3.33	3.55	1.30	2.55	4.08	1.12	2.66	2.49	3.45	2.06	32.14
<b>Aberdeen (King's Coll.)</b> . . . . .	3.79	1.91	2.21	2.93	.98	2.52	4.18	2.66	2.78	2.33	2.07	3.30	30.36
<b>Balmoral</b> . . . . .	4.32	1.81	1.97	3.81	1.01	1.03	3.40	1.05	2.06	1.25	1.44	2.82	26.87
<b>Kincardine—Balmak-</b>													
<b>ewan</b> . . . . .	5.44	2.20	2.03	2.02	.58	1.85	2.73	1.74	3.21	1.31	1.65	1.88	26.74
<b>Forfar—Montrose</b> . . . . .	3.30	1.57	1.65	2.39	.59	1.05	3.09	2.37	2.56	1.50	1.22	1.26	24.55
<b>Dundee (E. Necropolis)</b> . . . . .	3.35	2.47	1.72	1.55	.94	1.84	3.25	2.96	2.33	1.52	1.37	1.87	25.17
<b>Forfar</b> . . . . .	4.91	3.07	2.33	1.89	.99	1.19	2.82	1.68	2.20	1.35	1.26	2.10	25.50
<b>Lednathie</b> . . . . .	8.07	6.46	2.32	3.28	1.66	1.59	4.15	2.62	4.41	1.58	2.40	4.15	42.84
<b>Perth—Bonskeld</b> . . . . .	6.11	3.39	1.68	2.74	2.09	1.53	3.14	1.84	1.88	1.68	1.87	4.21	32.11
<b>Orfif</b> . . . . .	4.84	3.75	2.03	3.10	2.05	1.68	3.19	1.81	1.74	2.15	3.07	2.70	33.06
<b>Perth</b> . . . . .	4.08	2.34	1.46	2.23	1.17	2.38	3.26	1.47	1.32	2.25	1.95	2.45	27.56
<b>Killin</b> . . . . .	8.68	6.87	2.50	2.73	6.31	2.27	4.20	2.64	2.99	2.98	3.87	9.08	55.15
<b>Aberfoyle</b> . . . . .	6.05	6.80	3.20	4.70	5.75	2.30	4.10	3.10	3.50	5.20	5.20	6.10	53.70
<b>Pife—Cupar</b> . . . . .	4.12	1.86	2.06	1.46	.82	1.61	3.73	1.46	1.81	2.01	1.09	2.16	24.19
<b>Kinross—Loch Leven</b> . . . . .	3.70	2.92	2.39	1.84	1.73	1.75	4.37	2.81	2.05	1.95	2.31	2.57	29.94
<b>Clackmannan—</b>													
<b>Alla Waterworks</b> . . . . .	3.70	2.40	1.60	1.80	2.50	1.40	3.30	2.10	1.20	2.30	2.30	2.50	27.10
<b>Argyll—Gruinle (Mull)</b> . . . . .	10.60	11.01	3.30	4.00	7.65	5.05	5.62	4.97	3.35	4.69	7.84	10.52	78.47
<b>Oban</b> . . . . .	4.77	6.62	2.45	3.13	7.05	4.16	4.33	3.57	2.68	3.78	4.99	5.62	52.88
<b>Glenorchy Manse</b> . . . . .	8.78	8.99	2.71	4.21	10.73	4.81	6.66	5.26	5.33	4.21	5.79	9.16	76.44
<b>Ardraighaig</b> . . . . .	6.27	7.53	2.15	3.91	6.85	4.50	4.94	4.00	3.70	3.26	6.59	6.82	59.91
<b>Campbeltown</b> . . . . .	11.00	8.87	2.56	5.65	3.34	4.74	3.22	4.24	4.30	3.27	5.61	4.88	61.13
<b>Bute—Rothsay</b> . . . . .	6.56	6.59	2.56	3.40	6.23	4.50	3.93	3.80	3.20	2.55	5.53	5.33	53.12
<b>Stirling—Stirling</b> . . . . .	4.51	3.36	2.35	2.56	2.78	1.40	3.05	1.70	1.64	1.59	2.50	3.52	30.96
<b>Mugdock Reservoir</b> . . . . .	4.75	4.45	2.45	1.75	5.25	2.00	3.15	3.00	3.05	2.65	3.40	4.45	39.95
<b>Dumbarton—</b>													
<b>Helensburgh</b> . . . . .	6.85	5.43	2.68	3.50	5.22	2.69	4.61	2.74	2.99	2.60	4.74	5.07	49.21
<b>Renfrew—Greenock</b> . . . . .	7.43	7.37	3.07	3.79	5.75	2.84	4.16	3.44	4.05	3.49	4.04	7.10	56.53
<b>Paisley</b> . . . . .	5.13	5.01	1.90	2.92	3.64	1.67	2.63	2.57	1.83	2.59	2.69	4.47	37.25
<b>Ayr—</b>													
<b>Kilmarnock (Agric. Coll.)</b> . . . . .	3.15	5.13	2.00	2.19	3.68	3.02	2.85	3.99	1.87	2.59	3.07	3.57	37.11
<b>Ayr</b> . . . . .	3.47	3.71	1.59	2.10	3.42	2.37	2.73	3.61	1.19	2.11	2.52	3.41	31.23
<b>Pinnmore</b> . . . . .	7.11	4.90	1.05	3.48	3.24	4.00	3.44	2.89	2.62	1.99	4.42	3.96	44.00
<b>Muirkirk</b> . . . . .	6.51	4.37	1.71	2.42	4.07	2.08	4.37	3.62	2.08	1.77	3.85	3.78	42.50
<b>Lanark—</b>													
<b>Wishaw</b> . . . . .	3.20	2.60	1.10	1.25	2.20	1.60	3.40	3.20	3.15	1.80	2.10	2.90	28.50
<b>Carmunnock</b> . . . . .	3.97	4.51	2.57	2.19	3.23	1.83	2.60	2.38	1.74	2.28	2.53	4.17	34.20
<b>Leadhills</b> . . . . .	13.92	8.48	4.06	4.68	4.87	5.13	9.17	5.57	8.84	4.11	5.63	8.02	77.48
<b>Linlithgow—Linlith-</b>													
<b>gow</b> . . . . .	3.01	2.62	1.82	2.45	2.31	1.87	3.26	1.56	1.60	1.99	1.51	3.62	27.62
<b>Mid-Lothian—</b>													
<b>Edinburgh (University)</b> . . . . .	1.77	2.10	1.45	1.61	.81	1.58	3.98	1.44	1.71	1.41	1.04	2.67	21.57
<b>Balerno (Cockburn Hill)</b> . . . . .	2.91	2.69	2.21	2.25	2.03	2.08	4.31	2.12	1.71	2.11	1.88	3.82	30.12
<b>Haddington—North</b>													
<b>Berwick</b> . . . . .	1.83	2.12	1.58	1.93	.70	1.88	2.74	1.44	2.18	1.95	1.06	1.63	21.04
<b>Stobshiels Reservoir</b> . . . . .	1.90	2.41	2.53	3.29	.69	1.83	3.78	2.28	2.31	5.24	1.27	2.97	31.80
<b>Berwick—Marchmont</b> . . . . .	2.93	2.96	1.19	2.32	.67	1.67	5.40	2.73	3.41	3.44	.92	2.74	31.28
<b>Coldstream</b> . . . . .	2.50	2.04	1.04	2.40	.41	1.66	3.65	1.91	2.60	2.79	.62	2.12	23.64
<b>Peebles—Stobo Castle</b> . . . . .	4.65	3.81	2.62	2.21	1.64	2.45	3.64	2.41	2.50	3.12	1.70	4.01	34.05
<b>Selkirk—Fairmile</b> . . . . .	3.05	2.69	2.11	2.79	.78	.92	3.51	2.05	2.10	3.18	1.17	2.81	27.76
<b>Roxburgh—</b>													
<b>St Boswells (Fens)</b> . . . . .	1.94	2.29	1.35	2.11	.56	1.67	3.12	1.92	2.02	1.95	.55	1.90	21.58
<b>Kelso (Broomlands)</b> . . . . .	1.75	1.95	1.25	1.83	.61	1.75	3.69	2.31	2.26	2.77	.28	1.84	22.29
<b>Dumfries—Dumfries</b> . . . . .	4.88	2.95	1.13	2.29	2.31	1.44	3.89	2.60	2.21	1.79	1.21	1.11	31.81
<b>Drumlanrig</b> . . . . .	7.61	4.86	2.21	2.89	3.39	1.43	4.74	3.30	2.89	3.38	2.80	4.73	41.23
<b>Castle Milk</b> . . . . .	3.56	3.47	2.08	2.40	2.41	1.84	5.58	3.81	2.74	2.07	1.49	1.44	35.18
<b>Langholm</b> . . . . .	5.88	5.08	3.19	2.21	3.35	2.64	7.59	5.43	2.95	2.98	2.10	5.86	49.36
<b>Kirkcudbright—Car-</b>													
<b>geau</b> . . . . .	5.07	3.82	3.15	2.63	2.68	2.04	4.74	3.15	2.90	2.38	1.70	5.56	40.49
<b>Dalbeattie (Kirkcannan)</b> . . . . .	4.77	4.56	3.07	3.30	3.20	1.80	4.32	4.44	3.49	2.45	2.07	5.62	43.32
<b>Carsphairn (Shiel)</b> . . . . .	10.42	7.97	3.21	5.39	3.98	3.26	4.50	5.80	4.04	4.08	6.15	8.00	66.65
<b>Wigtown—Monreith</b> . . . . .	5.05	5.30	1.49	2.56	2.26	2.36	3.84	3.19	3.06	2.32	3.53	3.11	38.97

AGRICULTURAL STATISTICS.—RETURNED UPON 3RD JUNE 1922.—(Compiled from the Government Returns).

TABLE No. 1.—ACREAGE UNDER CROPS AND GRASS IN EACH COUNTY OF SOUTHLAND.

COUNTIES.	Total Average under Crops and Grass.		Arable Land.		Permanent Grass.		Wheat.		Barley, including Bere.		Oats.		Mixed Grain.		Rye.		Heans.		Pears.		Total.		Potatoes.		Turnips and Swedes.		Mangels.		Cabbage.		Rape.		Vetches or Tares (Seed).		Vetches, Tares, &c. (Fodder).		Small Fruit.		Rye-Grasses and other Clover.		Other Crops.		Bare Fallow.				
	Acres.	Acres.	Acres.	Acres.	Acres.	Acres.	Acres.	Acres.	Acres.	Acres.	Acres.	Acres.	Acres.	Acres.	Acres.	Acres.	Acres.	Acres.	Acres.	Acres.	Acres.	Acres.	Acres.	Acres.	Acres.	Acres.	Acres.	Acres.	Acres.	Acres.	Acres.	Acres.	Acres.	Acres.	Acres.	Acres.	Acres.	Acres.	Acres.	Acres.	Acres.	Acres.					
1. Aberdeen . . .	637,101	504,847	52,254	21,114	190,641	38	167	17	86	212,417	8,049	81,748	14	131	15	53	2,283	254	254	254	254	254	254	254	254	254	254	254	254	254	254	254	254	254	254	254	254	254	254	254	254	254	254	254	254		
2. Argyll . . .	137,880	55,695	72,185	1,152	17,935	28	425	92	3	13,737	3,365	5,372	16	131	15	53	2,283	254	254	254	254	254	254	254	254	254	254	254	254	254	254	254	254	254	254	254	254	254	254	254	254	254	254	254	254	254	
3. Argyll . . .	137,880	55,695	72,185	1,152	17,935	28	425	92	3	13,737	3,365	5,372	16	131	15	53	2,283	254	254	254	254	254	254	254	254	254	254	254	254	254	254	254	254	254	254	254	254	254	254	254	254	254	254	254	254	254	254
4. Argyll . . .	137,880	55,695	72,185	1,152	17,935	28	425	92	3	13,737	3,365	5,372	16	131	15	53	2,283	254	254	254	254	254	254	254	254	254	254	254	254	254	254	254	254	254	254	254	254	254	254	254	254	254	254	254	254	254	254
5. Argyll . . .	137,880	55,695	72,185	1,152	17,935	28	425	92	3	13,737	3,365	5,372	16	131	15	53	2,283	254	254	254	254	254	254	254	254	254	254	254	254	254	254	254	254	254	254	254	254	254	254	254	254	254	254	254	254	254	
6. Argyll . . .	137,880	55,695	72,185	1,152	17,935	28	425	92	3	13,737	3,365	5,372	16	131	15	53	2,283	254	254	254	254	254	254	254	254	254	254	254	254	254	254	254	254	254	254	254	254	254	254	254	254	254	254	254	254	254	
7. Argyll . . .	137,880	55,695	72,185	1,152	17,935	28	425	92	3	13,737	3,365	5,372	16	131	15	53	2,283	254	254	254	254	254	254	254	254	254	254	254	254	254	254	254	254	254	254	254	254	254	254	254	254	254	254	254	254	254	
8. Argyll . . .	137,880	55,695	72,185	1,152	17,935	28	425	92	3	13,737	3,365	5,372	16	131	15	53	2,283	254	254	254	254	254	254	254	254	254	254	254	254	254	254	254	254	254	254	254	254	254	254	254	254	254	254	254	254	254	
9. Argyll . . .	137,880	55,695	72,185	1,152	17,935	28	425	92	3	13,737	3,365	5,372	16	131	15	53	2,283	254	254	254	254	254	254	254	254	254	254	254	254	254	254	254	254	254	254	254	254	254	254	254	254	254	254	254	254	254	
10. Argyll . . .	137,880	55,695	72,185	1,152	17,935	28	425	92	3	13,737	3,365	5,372	16	131	15	53	2,283	254	254	254	254	254	254	254	254	254	254	254	254	254	254	254	254	254	254	254	254	254	254	254	254	254	254	254	254	254	
11. Argyll . . .	137,880	55,695	72,185	1,152	17,935	28	425	92	3	13,737	3,365	5,372	16	131	15	53	2,283	254	254	254	254	254	254	254	254	254	254	254	254	254	254	254	254	254	254	254	254	254	254	254	254	254	254	254	254	254	
12. Argyll . . .	137,880	55,695	72,185	1,152	17,935	28	425	92	3	13,737	3,365	5,372	16	131	15	53	2,283	254	254	254	254	254	254	254	254	254	254	254	254	254	254	254	254	254	254	254	254	254	254	254	254	254	254	254	254	254	
13. Argyll . . .	137,880	55,695	72,185	1,152	17,935	28	425	92	3	13,737	3,365	5,372	16	131	15	53	2,283	254	254	254	254	254	254	254	254	254	254	254	254	254	254	254	254	254	254	254	254	254	254	254	254	254	254	254	254	254	
14. Argyll . . .	137,880	55,695	72,185	1,152	17,935	28	425	92	3	13,737	3,365	5,372	16	131	15	53	2,283	254	254	254	254	254	254	254	254	254	254	254	254	254	254	254	254	254	254	254	254	254	254	254	254	254	254	254	254	254	
15. Argyll . . .	137,880	55,695	72,185	1,152	17,935	28	425	92	3	13,737	3,365	5,372	16	131	15	53	2,283	254	254	254	254	254	254	254	254	254	254	254	254	254	254	254	254	254	254	254	254	254	254	254	254	254	254	254	254	254	
16. Argyll . . .	137,880	55,695	72,185	1,152	17,935	28	425	92	3	13,737	3,365	5,372	16	131	15	53	2,283	254	254	254	254	254	254	254	254	254	254	254	254	254	254	254	254	254	254	254	254	254	254	254	254	254	254	254	254	254	
17. Argyll . . .	137,880	55,695	72,185	1,152	17,935	28	425	92	3	13,737	3,365	5,372	16	131	15	53	2,283	254	254	254	254	254	254	254	254	254	254	254	254	254	254	254	254	254	254	254	254	254	254	254	254	254	254	254	254	254	
18. Argyll . . .	137,880	55,695	72,185	1,152	17,935	28	425	92	3	13,737	3,365	5,372	16	131	15	53	2,283	254	254	254	254	254	254	254	254	254	254	254	254	254	254	254	254	254	254	254	254	254	254	254	254	254	254	254	254	254	
19. Argyll . . .	137,880	55,695	72,185	1,152	17,935	28	425	92	3	13,737	3,365	5,372	16	131	15	53	2,283	254	254	254	254	254	254	254	254	254	254	254	254	254	254	254	254	254	254	254	254	254	254	254	254	254	254	254	254	254	
20. Argyll . . .	137,880	55,695	72,185	1,152	17,935	28	425	92	3	13,737	3,365	5,372	16	131	15	53	2,283	254	254	254	254	254	254	254	254	254	254	254	254	254	254	254	254	254	254	254	254	254	254	254	254	254	254	254	254	254	
21. Argyll . . .	137,880	55,695	72,185	1,152	17,935	28	425	92	3	13,737	3,365	5,372	16	131	15	53	2,283	254	254	254	254	254	254	254	254	254	254	254	254	254	254	254	254	254	254	254	254	254	254	254	254	254	254	254	254	254	
22. Argyll . . .	137,880	55,695	72,185	1,152	17,935	28	425	92	3	13,737	3,365	5,372	16	131	15	53	2,283	254	254	254	254	254	254	254	254	254	254	254	254	254	254	254	254	254	254	254	254	254	254	254	254	254	254	254	254	254	
23. Argyll . . .	137,880	55,695	72,185	1,152	17,935	28	425	92	3	13,737	3,365	5,372	16	131	15	53	2,283	254	254	254	254	254	254	254	254	254	254	254	254	254	254	254	254	254	254	254	254	254	254	254	254	254	254	254	254	254	
24. Argyll . . .	137,880	55,695	72,185	1,152	17,935	28	425	92	3	13,737	3,365	5,372	16	131	15	53	2,283	254	254	254	254	254	254	254	254	254	254	254	254	254	254	254	254	254	254	254	254	254	254	254	254	254	254	254	254	254	
25. Argyll . . .	137,880	55,695	72,185	1,152	17,935	28	425	92	3	13,737	3,365	5,372	16	131	15	53	2,283	254	254	254	254	254	254	254	254	254	254	254	254	254	254	254	254	254	254	254	254	254	254	254	254	254	254	254	254	254	
26. Argyll . . .	137,880	55,695	72,185	1,152	17,935	28	425	92	3	13,737	3,365	5,372	16	131	15	53	2,283	254	254	254	254	254	254	254	254	254	254	254	254	254	254	254	254	254	254	254	254	254	254	254	254	254	254	254	254	254	
27. Argyll . . .	137,880	55,695	72,185	1,152	17,935	28	425	92	3	13,737	3,365	5,372	16	131	15	53	2,283	254	254	254	254	254	254	254	254	254	254	254	254	254	254	254	254	254	254	254	254	254	254	254	254	254	254	254	254	254	
28. Argyll . . .	137,880	55,695	72,185	1,152	17,935	28	425	92	3	13,737	3,365	5,372	16	131	15	53	2,283	254	254	254	254	254	254	254	254	254	254	254	254	254	254	254	254	254	254	254	254	254	254	254	254	254	254	254	254	254	
29. Argyll . . .	137,880	55,695	72,185	1,152	17,935	28	425	92	3	13,737	3,365	5,372	16	131	15	53	2,283	254	254	254	254	254	254	254	254	254	254	254	254	254	254	254	254	254	254	254	254	254	254	254	254	254	254	254	254	254	
30. Argyll . . .	137,880	55,695	72,185	1,152	17,935	28	425	92	3	13,737	3,365																																				



TABLE No. 3.—TOTAL PRODUCE OF BEANS, PEAS, AND POTATOES, ACREAGE AND YIELD per Acre in the Year 1921, compared with the YIELD for the Years 1920 and 1919, and the AVERAGE of the Ten Years, 1911-1920, in each COUNTY of SCOTLAND.

COUNTIES.	BEANS.						PEAS.						POTATOES.																			
	Total Produce in 1921.*		Yield per acre.				Average of the Ten Years 1911-1920.		Total Produce in 1921.†		Yield per acre.				Average of the Ten Years 1911-1920.		Total Produce in 1921.‡		Yield per acre.				Average of the Ten Years 1911-1920.									
			1921.		1920.						1921.		1920.						1921.		1920.											
	Qrs.	Acres.	Bush.	1921.	1920.	Bush.	4.0	Bush.	11.7	Bush.	11.4	6.6	Bush.	17.0	Tons.	Acres.	Tons.	Acres.	Tons.	Acres.	Tons.	Acres.	Tons.									
Aberdeen	10	6	34.2	28.2	29.6	30.6	30.6	30.6	30.6	30.6	30.6	30	18	11.7	11.4	6.6	6.6	6.6	6.6	62,060	7,635	8.2	7.3	6.2	6.2	6.2	6.2	6.2	6.2	6.2	6.2	
Argyll	130	80	34.2	28.2	29.6	30.6	30.6	30.6	30.6	30.6	30.6	..	..	..	..	..	..	..	..	71,000	9,853	7.2	5.8	6.1	5.8	6.1	5.7	6.1	5.7	6.1	5.7	
Ayr	1,300	270	34.2	28.2	29.6	30.6	30.6	30.6	30.6	30.6	30.6	..	..	..	..	..	..	..	..	21,000	9,853	7.0	8.4	7.8	8.8	7.8	8.8	7.8	8.8	7.8	8.8	
Barr	120	34	27.6	26.9	28.7	28.7	28.7	28.7	28.7	28.7	28.7	60	21	22.7	24.1	22.4	22.4	22.4	22.4	11,000	1,003	5.8	6.8	5.3	6.0	5.3	6.0	5.3	6.0	5.3	6.0	
Berwick	1,300	458	22.5	32.1	28.9	31.4	31.4	31.4	31.4	31.4	31.4	80	32	19.4	25.5	25.5	25.5	25.5	25.5	18,000	2,714	6.6	7.4	3.9	6.2	3.9	6.2	6.6	3.9	6.2	6.6	
Bute	100	23	33.9	29.0	29.3	29.3	29.3	29.3	29.3	29.3	29.3	..	..	..	..	..	..	..	..	7,300	1,159	6.3	5.9	5.9	6.6	5.9	6.6	6.6	5.9	6.6	6.6	
Caithness	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	9,200	1,417	6.5	5.6	4.5	4.6	4.5	4.6	4.5	4.6	4.5	4.6	
Clackmannan	1,400	256	41.8	44.8	42.0	40.5	40.5	40.5	40.5	40.5	40.5	..	..	..	..	..	..	..	..	3,600	467	7.3	7.3	5.9	3.9	5.9	3.9	7.3	5.9	3.9	7.3	
Dumfries	110	28	31.4	25.2	27.0	30.3	30.3	30.3	30.3	30.3	30.3	..	..	..	..	..	..	..	..	21,000	2,741	7.5	6.7	6.7	7.6	6.7	7.6	7.6	6.7	7.6	7.6	
Dumfriesshire	50	12	29.6	25.2	27.8	33.5	33.5	33.5	33.5	33.5	33.5	..	..	..	..	..	..	..	..	33,000	4,584	7.3	7.2	6.4	6.9	6.4	6.9	7.3	6.4	6.9	7.3	
Fife	1,800	446	32.7	40.8	39.8	38.0	38.0	38.0	38.0	38.0	38.0	..	..	..	..	..	..	..	..	125,000	17,679	7.1	8.6	4.7	8.0	4.7	8.0	8.6	4.7	8.0	8.6	
Forfar	240	64	30.0	34.0	34.0	36.4	36.4	36.4	36.4	36.4	36.4	..	..	..	..	..	..	..	..	117,000	18,479	6.4	7.3	4.9	6.5	4.9	6.5	7.3	4.9	6.5	7.3	
Galloway	570	137	33.4	33.7	32.8	33.0	33.0	33.0	33.0	33.0	33.0	30	8	31.0	30.0	32.0	32.0	32.0	32.0	54,000	7,774	7.0	8.3	5.0	6.9	5.0	6.9	8.3	5.0	6.9	8.3	
Inverness	10	3	33.0	35.0	37.3	42.0	42.0	42.0	42.0	42.0	42.0	..	..	..	..	..	..	..	..	126.4	14,000	5.464	2.6	4.6	3.3	3.7	4.6	3.3	3.7	4.6	3.3	3.7
Kincardine	90	27	25.9	32.0	33.7	38.6	38.6	38.6	38.6	38.6	38.6	..	..	..	..	..	..	..	..	36,000	4,528	8.0	8.5	4.4	5.8	4.4	5.8	8.5	4.4	5.8	8.5	
Kirkcubright	5	1	36.4	33.9	34.1	35.4	35.4	35.4	35.4	35.4	35.4	..	..	..	..	..	..	..	..	8,900	1,328	6.7	7.6	6.6	7.1	6.6	7.1	7.6	6.6	7.1	7.6	
Linlithgow	30	7	36.0	32.0	32.0	32.0	32.0	32.0	32.0	32.0	32.0	..	..	..	..	..	..	..	..	18,400	1,795	7.3	6.6	6.2	6.4	6.2	6.4	6.6	6.2	6.4	6.6	
Mid-Lothian	240	62	31.3	31.1	31.1	30.9	30.9	30.9	30.9	30.9	30.9	..	..	..	..	..	..	..	..	64,000	1,928	6.7	10.0	9.3	8.6	9.3	8.6	8.4	9.3	8.6	8.4	
Moray	50	11	36.5	36.7	35.8	33.0	33.0	33.0	33.0	33.0	33.0	..	..	..	..	..	..	..	..	16,000	2,601	7.2	7.9	5.8	7.2	5.8	7.2	7.9	5.8	7.2	7.9	
Nairn	120	24	38.4	29.4	34.5	43.0	43.0	43.0	43.0	43.0	43.0	..	..	..	..	..	..	..	..	46,000	6,975	6.6	8.1	5.2	7.0	5.2	7.0	8.1	5.2	7.0	8.1	
Orkney	40	13	24.4	22.4	23.7	26.2	26.2	26.2	26.2	26.2	26.2	20	10	16.0	20.6	22.5	22.5	22.5	22.5	11,000	1,697	6.3	6.4	5.1	5.9	5.1	5.9	6.4	5.1	5.9	6.4	
Peebles	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	1,400	277	5.0	6.0	4.0	4.8	4.0	4.8	6.0	4.0	4.8	6.0	
Perth	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	11,000	2,386	4.8	6.0	4.0	5.0	4.0	5.0	6.0	4.0	5.0	6.0	
Renfrew	3,100	824	30.3	38.4	43.7	34.1	34.1	34.1	34.1	34.1	34.1	20	8	24.0	10.0	12.0	12.0	12.0	12.0	2,900	461	6.3	7.3	5.4	6.3	5.4	6.3	7.3	5.4	6.3	7.3	
Ross and Cromarty	480	92	41.3	41.4	42.1	40.4	40.4	40.4	40.4	40.4	40.4	..	..	..	..	..	..	..	..	132,000	19,605	6.8	7.7	4.7	7.7	4.7	7.7	7.7	4.7	7.7	7.7	
Roxburgh	4	1	34.0	38.0	42.6	34.8	34.8	34.8	34.8	34.8	34.8	10	3	22.9	24.0	26.0	26.0	26.0	26.0	31,000	3,283	9.3	8.6	7.0	7.8	7.0	7.8	8.6	7.0	7.8	8.6	
Salisbury	450	137	26.3	27.2	28.9	29.9	29.9	29.9	29.9	29.9	29.9	5	2	20.5	24.3	26.0	26.0	26.0	26.0	8,900	1,280	6.9	6.9	4.6	5.9	4.6	5.9	6.9	4.6	5.9	6.9	
Shetland	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	1,300	181	7.1	7.2	5.3	5.0	5.3	5.0	7.2	5.3	5.0	7.2	
Strirling	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	10,000	2,279	4.6	9.1	5.7	5.0	5.7	5.0	9.1	5.7	5.0	9.1	
Sutherland	6,000	1,634	32.0	41.5	46.3	42.1	42.1	42.1	42.1	42.1	42.1	..	..	..	..	..	..	..	..	29,000	3,589	8.0	6.8	6.2	7.2	6.2	7.2	6.8	6.2	7.2	6.8	
Wigtown	370	101	29.6	30.8	33.2	36.7	36.7	36.7	36.7	36.7	36.7	..	..	..	..	..	..	..	..	6,800	1,283	5.3	6.1	4.9	4.9	4.9	4.9	6.1	4.9	4.9	6.1	
Total	13,700	4,704	31.7	37.6	39.4	36.9	36.9	36.9	36.9	36.9	36.9	260	102	20.0	25.7	18.0	18.0	18.0	18.0	1,040,000	153,820	6.8	7.6	5.4	7.6	5.4	7.6	5.4	7.6	5.4	7.6	

\* Exclusive of a certain acreage, not ascertainable, the produce of which was cut green. † Average of 9 years only. ‡ Average of 7 years only.  
 § Average of 6 years only. ¶ Average of 287 acres, the produce of which was cut or picked green.

TABLE No. 4.—TOTAL PRODUCE OF TURNIPS (including SWEDES) and MANGELS, ACREAGE and YIELD per Acre in the Year 1921, compared with the YIELD for the Years 1920 and 1919, and the AVERAGE of the Ten Years, 1911-1920, in each COUNTY OF SCOTLAND.

COUNTIES.	TURNIPS AND SWEDES.					MANGELS.					
	Total Produce in 1921.	Acreage in 1921.	Yield per Acre.			Total Produce in 1921.	Acreage in 1921.	Yield per Acre.			
			1921.	1920.	1919.			1921.	1920.	1919.	
	Tons.	Acre.	Tons.	Tons.	Tons.	Tons.	Acre.	Tons.	Tons.	Tons.	Average of the Ten Years, 1911-1920.
Aberdeen . . . . .	1,411,000	82,633	17.1	17.8	19.3	60	3	19.3	26.0	18.9	19.4
Argyll . . . . .	106,000	5,390	19.7	13.0	17.6	320	23	18.7	9.4	14.2	18.9
Ayr . . . . .	164,000	7,529	21.8	14.2	20.0	8,700	387	22.7	15.0	20.1	21.8
Banff . . . . .	352,000	20,292	17.4	18.1	17.9	15.5	40	18.3	13.1	16.8	16.1
Barwick . . . . .	420,000	22,347	18.8	22.0	18.4	3,100	5	17.0	18.1	15.1	16.1
Bute . . . . .	24,000	1,500	18.3	14.2	16.3	130	8	16.0	13.8	15.8	15.7
Caithness . . . . .	250,000	11,385	22.0	15.9	20.0	..	..	..	..	..	..
Clackmannan . . . . .	31,000	1,788	16.6	18.2	18.8	12	1	13.0	12.0	12.0	12.0
Dumfries . . . . .	38,000	1,368	22.5	17.7	20.0	180	5	20.0	20.5	25.5	21.6
Dumfries . . . . .	302,000	15,399	19.6	17.3	18.6	4,200	210	19.7	15.1	17.2	18.3
Fife . . . . .	364,000	21,260	17.1	21.2	19.2	910	94	14.3	18.7	16.4	12.5
Forfar . . . . .	570,000	30,816	18.5	23.1	14.0	210	13	15.8	21.1	14.2	20.1
Haddington . . . . .	241,000	12,906	18.7	21.2	15.1	4,800	238	18.8	21.1	15.9	19.5
Inverness . . . . .	137,000	9,384	14.6	15.9	14.8	50	3	15.0	16.0	17.0	11.7
Kinross . . . . .	240,000	15,610	15.4	16.8	14.1	..	..	..	..	..	..
Kirkcubright . . . . .	38,000	2,452	15.6	17.8	23.4	1,600	59	17.7	17.6	18.1	18.9
Lanark . . . . .	187,000	10,213	18.3	15.2	14.6	1,900	14	19.8	11.0	12.0	8.4
Lanlithgow . . . . .	190,000	9,434	20.2	19.7	18.0	140	6	22.7	25.7	23.6	24.4
Mid-Lothian . . . . .	65,000	3,185	20.4	22.3	16.4	860	42	21.3	24.9	19.2	20.7
Moray . . . . .	144,000	9,462	16.2	19.0	15.0	140	1	17.5	17.1	17.3	18.7
Nairn . . . . .	231,000	13,841	16.1	17.2	16.1	14	1	14.0	16.0	..	12.7
Orkney . . . . .	55,000	3,780	14.5	16.1	14.0	..	..	..	..	..	..
Peebles . . . . .	134,000	13,733	9.8	9.5	8.6	..	..	..	..	..	..
Perth . . . . .	57,000	3,209	17.7	18.9	17.1	..	..	..	..	..	..
Renfrew . . . . .	478,000	25,071	18.9	18.6	14.6	730	40	18.3	17.5	18.0	17.9
Ross and Cromarty . . . . .	40,000	2,130	18.8	18.5	14.6	450	15	30.0	19.2	19.2	17.7
Roxburgh . . . . .	257,000	14,323	17.9	16.2	17.4	18.3	15	16.6	18.0	19.5	16.6
Selkirk . . . . .	361,000	18,564	14.1	18.4	12.3	580	44	13.1	15.4	14.2	17.7
Shetland . . . . .	38,000	2,275	16.9	18.7	16.3	15	1	15.0	18.0	..	..
Stirling . . . . .	11,000	1,039	10.5	14.2	10.8	260	9	28.8	19.9	24.5	24.4
Sutherland . . . . .	84,700	3,862	22.3	26.7	25.3	..	..	..	..	..	..
Wigtown . . . . .	29,000	2,797	10.3	16.9	13.2	7,620	324	23.5	11.7	14.6	21.9
Total . . . . .	7,132,000	410,739	17.4	18.1	16.8	35,500	1,771	20.0	16.4	17.0	19.4

\* Average of 6 years only.

† Average of 8 years only.

‡ Average of 7 years only.

TABLE No. 5.—TOTAL PRODUCE OF HAY from Ryegrass and other Rotation Grasses and Clover, also Total from Permanent Grass, Acreage, and Yield per Acre in the Year 1921, compared with the YIELD for the Years 1920 and 1919, and the AVERAGE of the Ten Years, 1911-1920, in each COUNTY OF SCOTLAND.

COUNTIES.	FROM CLOVER, RAIPHOEN, AND GRASSES.					FROM PERMANENT GRASS.					
	Total Produce in 1921.	Acreage in 1921.	Yield per Acre.			Total Produce in 1921.	Acreage in 1921.	Yield per Acre.			
			1921.	1920.	1919.			1921.	1920.	1919.	
	Tons.	Acre.	Cwts.	Cwts.	Cwts.	Tons.	Acre.	Cwts.	Cwts.	Cwts.	Average of the Ten Years, 1911-1920.
Aberdeen . . . . .	65,000	50,767	25.8	30.0	28.3	950	841	22.5	24.4	17.1	Cwts.
Argyll . . . . .	18,000	12,866	29.9	37.7	25.5	23,710	14,471	32.4	32.4	30.7	Cwts.
Ayr . . . . .	39,000	26,537	29.0	34.2	28.4	39,000	20,732	37.7	42.5	36.6	Cwts.
Barr . . . . .	13,000	10,474	24.6	31.1	28.9	314	314	18.8	22.0	18.8	Cwts.
Bervick . . . . .	13,000	11,166	22.8	30.1	20.5	1,590	1,686	19.3	22.0	16.6	Cwts.
Bute . . . . .	4,700	2,896	38.3	37.7	37.4	399	34.3	34.3	34.6	34.6	Cwts.
Caithness . . . . .	8,900	10,279	17.8	15.5	16.0	270	805	6.6	6.7	7.1	Cwts.
Clackmannan . . . . .	2,400	1,519	31.6	41.4	35.4	2,090	1,039	40.6	48.3	35.3	Cwts.
Dumfries . . . . .	7,400	5,526	26.9	37.0	34.2	2,700	1,910	38.7	35.1	35.2	Cwts.
Dumfriesshire . . . . .	24,000	19,866	25.0	28.3	26.7	22,000	17,482	35.5	28.0	30.5	Cwts.
Fife . . . . .	47,000	27,073	34.1	41.7	33.3	8,670	2,673	27.3	36.0	32.4	Cwts.
Forfar . . . . .	33,000	23,095	33.3	36.7	32.1	1,560	1,168	25.7	38.4	37.3	Cwts.
Galloway . . . . .	19,000	9,770	38.5	47.1	39.2	500	447	23.6	35.9	32.0	Cwts.
Haddington . . . . .	13,000	11,732	21.8	23.5	18.4	7,900	7,869	19.9	21.0	19.1	Cwts.
Inverness . . . . .	21,000	13,701	30.8	35.7	30.8	260	187	30.8	44.7	30.8	Cwts.
Kincardine . . . . .	4,400	2,180	27.9	35.6	33.7	1,050	677	30.8	39.3	33.6	Cwts.
Kirkcubright . . . . .	13,000	10,661	27.4	28.9	28.3	12,400	11,393	21.9	37.1	35.5	Cwts.
Leath . . . . .	48,000	31,775	30.3	38.2	30.3	18,700	12,501	29.4	34.7	30.4	Cwts.
Linlithgow . . . . .	13,000	7,154	36.4	46.3	37.6	1,790	1,016	35.0	43.5	37.3	Cwts.
Mid-Lothian . . . . .	23,000	11,500	39.4	45.3	39.2	2,720	1,752	31.1	37.4	33.9	Cwts.
Moray . . . . .	5,800	5,935	19.5	24.2	20.2	180	146	18.3	21.3	24.9	Cwts.
Nairn . . . . .	1,900	1,953	19.5	21.0	17.3	17	22	15.0	17.1	16.0	Cwts.
Orkney . . . . .	11,000	10,449	21.6	14.0	16.5	90	359	4.8	5.2	7.8	Cwts.
Perth . . . . .	3,200	2,482	26.1	36.1	23.5	1,454	92.0	32.0	33.0	29.7	Cwts.
Perthshire . . . . .	52,000	38,595	31.3	35.2	28.5	14,300	10,590	26.9	28.9	26.8	Cwts.
Renfrew . . . . .	17,000	9,099	38.2	37.2	33.2	18,400	6,016	44.8	46.5	38.9	Cwts.
Ross and Cromarty . . . . .	16,000	14,015	22.2	30.1	21.8	2,139	2,582	16.5	17.5	16.0	Cwts.
South Ayrshire . . . . .	12,000	8,924	26.5	34.4	23.6	6,630	6,470	30.1	32.9	27.4	Cwts.
Selkirk . . . . .	1,800	1,165	22.5	35.4	21.3	2,010	1,734	23.8	29.7	20.2	Cwts.
Shetland . . . . .	2,000	1,416	22.5	22.9	14.3	1,500	1,691	17.8	21.1	13.5	Cwts.
Stirling . . . . .	14,000	11,398	25.1	33.0	30.6	12,600	6,804	38.8	46.0	37.4	Cwts.
Southland . . . . .	4,100	4,485	18.2	19.7	16.3	870	1,438	11.6	18.5	15.0	Cwts.
Wigtown . . . . .	5,700	5,785	19.9	25.0	19.8	6,000	4,406	27.5	28.1	22.9	Cwts.
Total . . . . .	531,000	410,556	28.3	32.6	26.4	205,000	142,964	28.7	32.6	25.8	Cwts.



TABLE NO. 6.—NUMBER OF HORSES, CATTLE, SHEEP, AND PIGS IN EACH COUNTY OF SCOTLAND AS RETURNED ON JUNE 3, 1922.

COUNTY.	HORSES (including Ponies).				CATTLE.				SHEEP.				Pigs.			
	Used solely for Agriculture, &c.*	Stallions.	Unbroken Horses.		Cows in Milk.	Cows in Calf, but not in Milk.	Heifers in Calf.	Hulls used for Breeding.	Other Cattle.		Ewes kept for Breeding.	Rams to be used for Service.	Under 1 Year.	Kept for Breeding.	Other Pigs.	
			1 Year & above.	Under 1 Year.					1 Year & above.	Under 1 Year.						
1. Aberdeen . . . . .	21,204	74	6,623	1,423	38,686	3,201	2,830	1,951	37,632	45,215	80,005	2,058	27,140	2,060	241	13,100
2. Argyll . . . . .	4,214	16	1,655	314	17,884	2,230	1,961	1,000	9,697	11,310	357,791	11,204	132,103	469	74	8,731
3. Argyll . . . . .	7,281	62	2,108	619	45,925	3,666	8,705	2,541	9,811	12,290	157,441	5,915	41,856	1,813	188	10,987
4. Banff . . . . .	6,289	10	1,946	531	10,918	836	821	506	6,852	12,871	24,923	648	9,026	561	53	8,120
5. Berwick . . . . .	3,761	9	673	85	498	2,650	397	292	4,988	4,218	2,714	2,976	31,055	680	93	4,149
6. Bute . . . . .	948	3	288	94	140	2,976	353	200	1,193	2,310	16,933	466	7,023	68	10	468
7. Caithness . . . . .	4,165	27	1,170	269	430	6,052	458	165	2,148	5,376	59,330	1,417	20,231	66,535	10	2,021
8. Clackmannan . . . . .	496	8	232	66	48	992	98	45	1,055	626	497	5,365	269	1,251	14	527
9. Dumfriesshire . . . . .	1,371	14	465	96	243	5,618	1,334	783	282	1,937	1,894	30,119	931	10,359	104	16
10. Dundee . . . . .	5,072	30	1,966	502	1,271	19,283	2,003	1,213	9,960	15,306	18,807	5,361	63,172	24,489	16	977
11. East Lothian . . . . .	2,886	8	392	75	258	1,791	289	305	163	2,840	1,919	1,373	4,544	1,400	94	7,779
12. Fife . . . . .	6,893	26	2,149	419	9,356	1,415	1,450	623	10,314	8,490	5,441	33,324	10,515	476	58	2,698
13. Forfar . . . . .	7,513	16	1,190	247	1,005	9,226	884	840	435	12,906	8,599	6,764	10,944	1,265	165	6,788
14. Inverness . . . . .	6,281	37	1,350	515	520	16,880	2,452	1,186	537	5,145	8,973	2,386	22,125	1,007	100	5,809
15. Kinross . . . . .	3,688	3	944	162	431	5,413	454	362	4,797	6,581	16,933	440	89,408	167,885	357	1,533
16. Kinross . . . . .	829	5	374	66	111	1,159	157	176	81	1,076	1,795	540	4,514	18,371	357	2,132
17. Kirkcubright . . . . .	3,524	52	1,454	373	723	17,430	988	4,202	8,904	12,097	10,150	3,896	2,179	14,269	86	11
18. Leven . . . . .	6,038	61	1,664	571	1,558	23,766	6,417	4,475	1,532	10,150	12,235	4,203	48,960	154,734	907	10,824
19. Linlithgow . . . . .	1,581	15	515	139	305	4,290	710	689	8,197	10,775	10,903	2,788	28,469	97,495	890	6,018
20. Mid-Lothian . . . . .	3,079	11	603	140	630	7,673	905	224	2,227	2,638	1,890	6,389	3,848	6,073	33	1,461
21. Moray . . . . .	3,509	27	1,128	247	402	5,535	431	379	3,823	1,661	1,763	5,369	2,957	233	33	1,461
22. Nairn . . . . .	916	8	377	74	186	1,817	153	141	109	385	1,661	1,763	5,369	2,957	33	1,461
23. Orkney . . . . .	5,006	18	1,178	340	763	8,577	878	266	4,435	8,049	8,295	13,536	3,444	16,671	185	9,843
24. Peebles . . . . .	813	10	163	62	168	1,767	218	147	854	1,803	8,295	13,536	3,444	16,671	185	9,843
25. Perth . . . . .	9,536	42	2,563	598	1,282	14,210	2,112	921	14,000	16,235	13,266	24,547	7,118	19,326	33	6
26. Renfrew . . . . .	2,183	21	568	150	452	1,432	1,812	569	2,084	3,930	8,099	15,033	4,019	14,937	132	7,327
27. Ross & Cromarty . . . . .	5,800	15	1,193	246	516	18,668	1,877	1,225	391	5,365	7,605	8,266	55,274	91,701	505	2,841
28. Roxburgh . . . . .	3,170	12	616	99	750	3,893	517	326	4,748	4,748	8,677	207,508	4,917	64,230	469	2,740
29. Selkirk . . . . .	438	6	102	50	986	83	170	61	488	756	81,898	1,884	17,664	61,681	101	8
30. Shetland . . . . .	2,416	65	354	194	2,117	5,357	759	410	108	2,652	70,950	2,500	48,165	50,286	6	471
31. Stirling . . . . .	3,235	29	1,074	311	527	1,637	745	574	7,245	6,025	4,689	50,298	1,411	18,704	298	3,069
32. Sutherland . . . . .	1,840	3	327	82	208	4,012	562	310	2,934	2,104	87,432	2,454	45,538	66,732	83	683
33. Wigton . . . . .	3,836	44	1,605	479	658	25,318	1,069	2,785	1,141	7,469	50,825	1,418	12,905	51,964	130	11,964
Total . . . . .	139,411	776	38,850	9,814	22,918	358,943	44,695	18,386	199,342	250,157	2,872,529	79,763	971,618	2,760,187	1,261	130,836

\* Including Mares kept for breeding.

† Above two years old used, or intended to be used for service.

TABLE NO. 7.—QUANTITY AND VALUE OF CORN, &c., imported into the United Kingdom in the undermentioned Years.

[From Trade and Navigation Returns.]

	Quantities.			Values.		
	1920.	1921.	1922.	1920.	1921.	1922.
Wheat from—	Cwt.	Cwt.	Cwt.	£	£	£
United States . . . . .	45,422,300	36,065,002	37,261,500	69,838,106	81,523,056	22,489,539
Chile . . . . .	..	323,000	..	..	275,362	..
Argentine Republic . . . . .	30,830,800	4,186,460	18,804,200	38,864,688	3,642,458	11,626,921
British East Indies . . . . .	20,000	2,660,200	487,000	35,000	2,766,874	297,259
Australia . . . . .	19,966,100	20,108,715	16,334,997	18,635,968	17,783,123	10,265,584
New Zealand . . . . .	4,900	..	847,400	5,760	..	182,616
Canada . . . . .	10,189,400	14,589,320	22,909,800	15,581,846	12,216,573	13,789,784
Other countries . . . . .	2,894,826	2,546,097	228,637	4,291,982	2,398,622	137,765
Total . . . . .	109,328,326	80,478,794	96,374,134	146,753,350	70,606,068	68,789,358
Wheat, meal, and flour, from—						
Belgium . . . . .	..	19,500	2,200	..	15,230	1,760
France . . . . .	..	18,600	193,000	..	12,846	144,253
United States . . . . .	5,837,400	7,900,742	4,576,701	10,872,260	9,408,921	3,662,967
Argentine Republic . . . . .	183,918	114,737	290,300	228,280	96,491	146,192
Australia . . . . .	1,481,200	1,880,700	1,778,130	2,325,722	1,627,426	1,383,122
Canada . . . . .	2,318,601	5,866,019	6,596,440	4,413,435	7,126,745	5,311,709
Other countries . . . . .	2,148,621	540,757	44,250	3,406,284	776,366	21,035
Total . . . . .	11,969,740	15,841,055	13,481,021	21,245,981	19,064,025	10,674,038
Barley . . . . .	12,667,700	15,812,652	12,693,375	14,458,164	10,529,331	6,068,616
Oats . . . . .	6,101,600	8,356,836	9,356,902	5,632,721	4,402,820	4,363,001
Peas . . . . .	582,663	1,313,004	1,314,508	1,057,587	1,646,513	1,699,038
Beans, not fresh . . . . .	1,280,300	2,602,469	1,138,270	1,690,277	1,515,105	647,667
Maize . . . . .	33,840,060	36,767,283	37,200,102	27,371,234	18,445,997	15,621,865
Maize products . . . . .	1,751,220	2,534,228	2,199,855	1,974,107	1,425,955	931,365
Oat products . . . . .	677,984	847,947	836,057	1,320,576	1,207,854	906,446
Rice—						
From Brit. East Indies . . . . .	2,474,608	3,765,170	1,284,836	4,786,881	3,461,442	857,285
From other countries . . . . .	478,555	3,083,362	1,460,704	1,897,038	2,940,762	1,427,768
Other kinds of grain . . . . .	1,047,889	1,125,408	666,377	1,192,914	1,020,046	396,687
Other products . . . . .	204,089	259,544	318,838	644,341	643,983	692,885
Malt . . . . .	92,667	164,416	8,361	157,011	323,798	9,677
Farinaceous substances . . . . .	1,290,297	1,164,128	1,126,942	1,953,418	1,078,138	939,750
Total of corn, &c. . . . .	62,489,532	77,846,447	69,603,527	63,636,209	48,641,794	33,861,930

TABLE NO. 8.—RETURN OF THE AVERAGE PRICES OF WOOL in the Year 1921 and 1922.

Years.	Australian.	South African.	English Fleeces.
	Per lb.	Per lb.	Per lb.
	s. d.	s. d.	s. d.
1921 . . . . .	1 2½	1 1½	0 0½ to 1 3½
1922 . . . . .	1 2½	1 0½	1 0½ to 1 9½

TABLE No. 9.—QUANTITIES AND VALUES OF CORN, MEAT, FOOD PRODUCTS, AND ARTICLES AFFECTING AGRICULTURE, imported into the United Kingdom in the Year 1922, with the Corresponding Figures for 1920 and 1921.

[From Trade and Navigation Returns.]

	Quantities.			Values.		
	1920.	1921.	1922.	1920.	1921.	1922.
<b>ANIMALS, LIVING:—</b>	No.	No.	No.	£	£	£
Cattle . . . . .	..	66,674	49,557	..	2,756,193	1,580,155
Sheep and lambs . . . .	..	10,704	..	..	48,125	..
Pigs . . . . .	..	..	..	..	..	..
Total value . . . . .	..	77,378	49,557	..	2,804,318	1,580,155
<b>GRAIN, FLOUR, &amp;c.:—</b>	Cwt.	Cwt.	Cwt.	£	£	£
Wheat . . . . .	109,328,326	80,478,794	96,374,134	146,753,350	70,606,068	53,789,358
Wheat, meal, and flour . .	11,969,740	15,841,055	13,481,021	21,245,981	19,064,025	10,674,088
Barley . . . . .	12,667,700	15,812,652	12,695,275	14,458,164	10,529,381	6,068,016
Oats . . . . .	6,101,600	8,356,836	9,356,902	5,652,721	4,402,820	4,363,001
Peas, not fresh . . . . .	582,663	1,313,004	1,314,508	1,057,587	1,646,513	1,690,038
Beans . . . . .	1,280,390	2,662,469	1,138,270	1,690,277	1,515,105	647,607
Maize or Indian corn . . .	33,840,060	36,757,283	37,200,102	27,871,234	18,446,997	15,021,805
Maize products . . . . .	1,751,220	2,534,228	2,199,855	1,974,107	1,425,955	231,365
Oat products . . . . .	677,984	847,947	835,057	1,320,576	1,207,854	906,446
All other products . . . .	204,089	259,544	318,838	644,341	643,983	592,885
Malt . . . . .	92,567	164,416	8,861	157,011	328,798	9,677
<b>Rice—</b>						
From British East Indies .	2,474,608	2,764,170	1,284,886	4,786,881	3,461,442	857,285
From other countries . . .	478,555	2,083,862	1,460,704	1,897,088	2,940,762	1,427,768
Other kinds of grain . . .	1,047,889	1,125,408	665,377	1,192,914	1,020,046	396,687
Farinaceous substances . .	1,290,297	1,164,128	1,126,942	1,953,418	1,078,138	989,750
Total value . . . . .	183,787,598	174,160,296	179,458,682	231,635,600	138,311,887	103,825,826
<b>MEAT:—</b>	Cwt.	Cwt.	Cwt.	£	£	£
Beef, salted . . . . .	45,281	30,651	32,854	280,388	164,677	122,203
*Beef . . . . .	9,862,174	11,630,176	10,806,005	45,162,087	41,147,773	24,647,960
*Mutton . . . . .	6,398,942	6,829,906	5,848,763	26,760,522	29,001,979	22,341,500
Bacon . . . . .	5,611,630	5,677,588	5,982,152	50,367,469	43,523,266	35,530,534
Hams . . . . .	324,351	1,127,287	1,483,242	2,971,781	8,216,943	8,585,866
Pork, salted (not bacon or hams)	23,320	30,666	38,442	134,190	110,485	226,638
*Pork . . . . .	502,179	650,640	669,161	3,719,189	3,645,762	3,309,738
Tinned, canned extracts, including tongue	985,378	638,592	1,065,857	7,693,921	4,290,476	5,133,939
All other kinds . . . . .	271,046	297,125	330,093	1,310,900	1,618,922	1,514,329
*Rabbits (dead) . . . . .	525,970	236,416	234,452	1,597,704	550,805	460,041
Total of dead meat . . . .	24,550,271	27,149,047	26,451,894	140,498,105	132,276,027	101,872,357
<b>DAIRY PRODUCTS:—</b>	Cwt.	Cwt.	Cwt.	£	£	£
Butter . . . . .	1,702,203	3,523,976	4,233,561	24,581,748	43,339,947	37,315,536
Margarine . . . . .	897,972	1,046,072	998,970	5,814,325	5,222,985	3,370,070
Cheese . . . . .	2,750,360	2,817,465	2,659,464	20,633,946	17,448,521	13,487,310
Total . . . . .	5,350,435	7,387,513	7,926,995	50,780,019	65,011,403	53,623,416

\* Fresh, Chilled, and Frozen.

TABLE No. 9—Continued.

	Quantities.			Values.		
	1920.	1921.	1922.	1920.	1921.	1922.
POULTRY (alive or dead) . . . . .	96,535	146,192	896,319	£ 872,852	£ 589,149	£ 1,242,974
GAME (alive or dead) . . . . .	Gt. Hunds.	Gt. Hunds.	Gt. Hunds.	156,839	47,071	106,268
Eggs . . . . .	7,060,508	10,587,504	13,661,671	11,569,838	11,895,828	11,801,652
Total value . . . . .	..	..	..	12,598,529	12,032,648	12,750,894
FRUIT, VEGETABLES, &c. :—	Cwt.	Cwt.	Cwt.	£	£	£
Apples . . . . .	4,620,829	4,001,184	4,471,889	9,502,177	7,892,929	6,644,169
Cherries . . . . .	55,801	111,071	66,465	236,518	410,030	193,752
Plums . . . . .	813,611	167,897	168,081	1,192,886	621,817	864,412
Pears . . . . .	668,541	748,992	997,065	2,022,946	1,684,486	1,452,270
Grapes . . . . .	598,108	598,477	676,384	2,080,467	1,810,876	1,414,916
Oranges . . . . .	4,401,764	5,857,600	6,082,808	8,017,095	7,954,048	7,366,272
Lemons . . . . .	500,495	807,542	860,824	708,747	1,017,028	806,184
Unenumerated . . . . .	848,262	500,079	892,949	738,748	828,314	590,740
Onions . . . . .	Bushels.	Bushels.	Bushels.	3,303,209	2,952,655	3,383,612
Potatoes . . . . .	8,911,742	8,911,742	9,583,967	3,303,209	2,952,655	3,383,612
Vegetables, unenumerated } (raw)	Cwt.	Cwt.	Cwt.	5,174,572	3,084,011	3,379,273
Hops . . . . .	8,310,096	8,061,070	3,431,380	732,276	907,006	1,129,087
Total value . . . . .	..	..	..	8,823,830	3,809,290	1,557,882
OTHER ARTICLES :—	..	..	..	42,582,471	32,451,990	28,182,009
Lard . . . . .	Tons.	Tons.	Tons.	£ 12,793,129	£ 10,463,440	£ 7,658,751
Wool, sheep, and lambs . . . . .	72,825	113,796	114,966	87,623,062	41,550,885	58,872,102
Wood and timber—	Centals.	Centals.	Centals.	9,369,122	3,324,152	5,488,868
Hewn (pit-props or pit-wood)	8,728,799	7,612,897	11,055,764	55,118,611	17,405,115	25,096,294
Sawn or soft . . . . .	Loads.	Loads.	Loads.	3,640,806	1,411,079	736,787
Staves . . . . .	2,008,937	1,296,925	2,811,876	3,649,608	3,606,874	3,142,527
Oilseed-cake (not sweetened)	8,929,524	2,067,588	3,998,728	3,606,874	3,606,874	3,142,527
Seeds—	165,871	51,121	75,021	2,015,274	1,278,251	1,127,698
Clover and grass . . . . .	Tons.	Tons.	Tons.	8,453,765	4,231,478	4,987,986
Cotton . . . . .	227,310	825,614	827,921	15,688,378	8,592,808	7,012,512
Flax or linseed . . . . .	Cwt.	Cwt.	Cwt.	1,090,060	565,700	378,012
Rape . . . . .	283,920	251,607	313,955	350,928	395,482	753,934
Soya beans . . . . .	Tons.	Tons.	Tons.	239,596	141,249	52,863
Bones (whether burnt or not)	442,842	376,518	483,623	159,568	114,874	93,868
Guano . . . . .	Qrs.	Qrs.	Qrs.	134,918	247,729	255,054
Basic slag . . . . .	880,867	469,798	558,884	3,837,543	958,615	612,098
Nitrate of soda (cubic nitre)	29,960	28,077	33,410	2,655,414	1,879,859	1,036,071
Phosphate of lime and rock } phosphate	Tons.	Tons.	Tons.	72,441,969	85,450,189	85,450,189
Cotton, raw of 100 lb.	14,978	61,425	59,357	2,564,788	2,743,027	2,743,027
Hemp . . . . .	18,972,824	11,725,521	14,319,902	3,849,529	3,060,785	3,060,785
Flax . . . . .	Tons.	Tons.	Tons.	7,776,438	2,428,612	2,228,192
Hides untanned—	20,788	18,651	39,548	7,188,216	1,824,022	1,866,674
Dry . . . . .	Cwt.	Cwt.	Cwt.	4,091,719	2,428,612	2,228,192
Wet . . . . .	753,264	296,250	501,352	53,765,337	36,106,260	36,106,260
Petroleum . . . . .	483,006	374,668	589,265	66,817,700	53,765,337	36,106,260
	Gallons.	Gallons.	Gallons.			
	875,199,006	1,059,603,418	995,974,447			

**TABLE NO. 10.—QUANTITY AND VALUE OF DEAD MEAT imported into the United Kingdom in the undermentioned Years.**

	Quantities.			Values.		
	1920.	1921.	1922.	1920.	1921.	1922.
<b>BACON, from—</b>	<b>Cwt.</b>	<b>Cwt.</b>	<b>Cwt.</b>	<b>£</b>	<b>£</b>	<b>£</b>
Denmark . . . . .	704,075	1,849,885	2,363,786	7,816,370	16,980,004	16,660,616
United States . . . . .	3,362,264	2,509,379	2,463,868	29,453,894	16,266,867	12,182,415
Canada . . . . .	1,493,088	844,024	787,373	13,128,738	6,217,080	4,321,984
Other countries . . . . .	52,283	474,300	867,775	468,469	4,114,255	2,365,519
<b>Total . . . . .</b>	<b>5,611,630</b>	<b>5,677,588</b>	<b>5,932,162</b>	<b>50,867,469</b>	<b>43,528,206</b>	<b>35,580,584</b>
<b>BEAF (salted), from—</b>						
United States . . . . .	40,207	28,984	28,856	259,810	159,425	114,466
Other countries . . . . .	5,074	1,667	8,998	20,578	5,252	7,787
<b>Total . . . . .</b>	<b>45,281</b>	<b>30,651</b>	<b>32,854</b>	<b>280,383</b>	<b>164,677</b>	<b>122,208</b>
<b>BEAF (fresh and refrigerated)—</b>						
Denmark . . . . .	1,150	17,777	78,663	7,071	117,229	431,841
United States . . . . .	224,061	149,763	65,756	1,124,367	679,942	260,938
Uruguay . . . . .	801,288	1,209,927	1,146,017	3,658,121	4,391,201	2,610,090
Argentine Republic . . . . .	6,537,418	7,479,906	7,608,968	80,400,466	27,473,844	17,679,689
Australia . . . . .	842,477	1,677,140	1,166,590	3,622,084	5,881,359	2,204,900
New Zealand . . . . .	867,879	819,568	580,335	3,693,540	2,189,913	1,174,654
Other countries . . . . .	587,301	276,095	159,676	2,760,438	914,784	376,998
<b>Total . . . . .</b>	<b>9,862,174</b>	<b>11,630,176</b>	<b>10,806,005</b>	<b>46,162,037</b>	<b>41,147,772</b>	<b>24,647,969</b>
<b>HAMS, from—</b>						
United States . . . . .	283,591	1,020,718	1,320,559	2,598,627	7,472,465	7,907,710
Canada . . . . .	25,776	93,906	96,370	237,074	666,483	592,018
Other countries . . . . .	14,984	12,663	16,313	136,080	87,995	85,688
<b>Total . . . . .</b>	<b>324,351</b>	<b>1,127,287</b>	<b>1,433,242</b>	<b>2,971,781</b>	<b>8,216,943</b>	<b>8,585,866</b>
<b>TINNED, CANNED EXTRACTS (including Tongue)—</b>						
Beef . . . . .	761,008	508,085	921,096	6,427,654	3,637,623	4,547,547
Mutton . . . . .	147,107	54,611	52,651	927,941	319,759	258,195
„ Other descriptions . . . . .	77,263	75,896	92,110	938,326	333,094	328,107
<b>Total . . . . .</b>	<b>985,378</b>	<b>638,592</b>	<b>1,065,867</b>	<b>7,693,921</b>	<b>4,290,470</b>	<b>5,133,939</b>
<b>ALL OTHER KINDS—</b>						
Tinned or Canned . . . . .	117,881	68,278	46,449	1,157,841	708,865	430,964
Salted . . . . .	5,219	19,059	11,565	35,502	73,321	41,021
Other descriptions . . . . .	147,946	209,788	282,949	617,566	841,736	1,042,844
<b>Total . . . . .</b>	<b>271,046</b>	<b>297,125</b>	<b>380,963</b>	<b>1,810,909</b>	<b>1,618,922</b>	<b>1,514,329</b>
<b>MUTTON (fresh and refrigerated)—</b>						
Netherlands . . . . .	54,413	70,948	188,662	407,118	409,020	665,232
Uruguay . . . . .	31,918	131,586	116,525	188,687	495,014	348,177
Argentine Republic . . . . .	773,694	1,410,872	1,430,277	3,529,413	5,804,063	5,031,415
Australia . . . . .	2,258,084	487,247	984,110	9,080,776	1,898,428	8,721,510
New Zealand . . . . .	3,074,848	3,897,113	3,016,063	12,575,359	16,441,605	12,091,188
Other countries . . . . .	205,985	882,140	163,126	1,029,174	3,968,849	480,978
<b>Total . . . . .</b>	<b>6,398,942</b>	<b>6,829,906</b>	<b>5,848,763</b>	<b>26,760,522</b>	<b>29,001,979</b>	<b>22,841,500</b>
<b>PORK (salted, not Bacon or Hams), from—</b>						
Denmark . . . . .	4,314	9,389	53,064	10,926	20,688	88,559
United States . . . . .	16,505	15,278	27,789	107,410	73,251	103,448
Other countries . . . . .	2,501	5,549	8,639	15,854	16,546	34,681
<b>Total . . . . .</b>	<b>33,320</b>	<b>30,666</b>	<b>88,442</b>	<b>134,190</b>	<b>110,485</b>	<b>226,688</b>
<b>PORK (fresh and refrigerated)—</b>						
Netherlands . . . . .	31,276	282,668	461,332	326,957	1,772,416	2,410,921
China . . . . .	75,906	47,426	..	502,118	206,737	..
Argentine Republic . . . . .	179,373	132,055	101,984	1,280,968	684,563	398,842
United States . . . . .	154,906	181,609	80,341	1,152,874	740,939	395,335
Other countries . . . . .	60,718	56,882	25,507	447,472	241,107	104,640
<b>Total . . . . .</b>	<b>502,179</b>	<b>650,640</b>	<b>669,164</b>	<b>3,719,189</b>	<b>3,645,762</b>	<b>3,809,788</b>
<b>RABBITS (dead), from—</b>						
Belgium . . . . .	1	1,686	3,587	6	11,341	19,138
Australia . . . . .	507,015	200,068	218,854	1,531,495	471,778	412,468
New Zealand . . . . .	13,730	22,846	10,098	37,379	50,272	18,287
Other countries . . . . .	5,234	2,816	1,963	28,924	17,414	10,168
<b>Total . . . . .</b>	<b>525,970</b>	<b>236,416</b>	<b>234,462</b>	<b>1,597,704</b>	<b>550,805</b>	<b>460,041</b>
<b>Total of dead meat . . . . .</b>	<b>24,550,271</b>	<b>27,149,947</b>	<b>26,451,894</b>	<b>140,498,105</b>	<b>132,276,037</b>	<b>101,872,957</b>

TABLE NO. 11.—QUANTITIES AND VALUES OF BUTTER, MARGARINE, CHEESE, AND Eggs imported into the United Kingdom in each Year from 1920 to 1922 inclusive.

[From Trade and Navigation Returns.]

	Quantities.			Values.		
	1920.	1921.	1922.	1920.	1921.	1922.
<b>BUTTER from—</b>	<b>Owt.</b>	<b>Owt.</b>	<b>Owt.</b>	<b>£</b>	<b>£</b>	<b>£</b>
Russia . .	19,308	...	...	280,654	...	...
Sweden . .	4	808	16,554	44	8,222	174,809
Denmark . .	817,268	1,250,176	1,423,796	11,762,845	15,084,605	13,969,683
Netherlands . .	102,567	63,065	78,615	1,583,482	744,245	710,399
France . .	8,734	542	21,157	120,439	6,184	173,815
United States . .	37,261	1,888	34,354	557,152	11,160	346,624
Argentine Republic . .	138,862	401,354	356,158	2,038,594	5,017,034	2,731,441
Victoria . .	129,474	419,757	333,094	1,961,743	5,262,175	2,437,258
New S. Wales . .	74,166	244,689	258,550	999,769	2,867,524	1,919,594
Queensland . .	19,969	263,560	309,863	270,714	2,975,825	2,391,016
New Zealand . .	275,406	709,381	1,103,444	3,828,280	8,494,063	9,340,703
Canada . .	32,140	43,138	154,532	477,250	529,856	1,530,768
Other countries . .	47,044	125,618	178,444	637,782	1,339,054	1,589,426
<b>Total . .</b>	<b>1,702,203</b>	<b>3,523,976</b>	<b>4,268,561</b>	<b>24,518,748</b>	<b>42,339,947</b>	<b>37,315,536</b>
<b>MARGARINE from—</b>	<b>Owt.</b>	<b>Owt.</b>	<b>Owt.</b>	<b>£</b>	<b>£</b>	<b>£</b>
Netherlands . .	853,263	1,036,148	991,714	5,231,770	5,149,224	3,835,205
France . .	2,430	9,346	5,649	19,115	71,202	29,151
Other countries . .	42,279	578	1,607	263,440	2,569	5,711
<b>Total . .</b>	<b>897,972</b>	<b>1,046,072</b>	<b>998,970</b>	<b>5,514,325</b>	<b>5,222,935</b>	<b>3,870,070</b>
<b>CHEESE from—</b>	<b>Owt.</b>	<b>Owt.</b>	<b>Owt.</b>	<b>£</b>	<b>£</b>	<b>£</b>
Netherlands . .	112,196	128,032	175,761	724,194	768,956	740,956
Italy . .	951	7,447	40,256	19,222	65,759	296,572
United States . .	73,344	49,063	21,998	518,978	307,789	99,237
Australia . .	63,439	83,622	99,720	515,923	501,912	434,118
New Zealand . .	1,260,642	1,302,766	1,294,779	9,279,901	8,728,777	5,883,957
Canada . .	1,129,768	1,195,661	949,162	8,814,530	6,666,844	4,493,503
Other countries . .	109,930	50,874	77,788	761,198	406,484	489,467
<b>Total . .</b>	<b>2,760,260</b>	<b>2,817,465</b>	<b>2,659,464</b>	<b>20,633,946</b>	<b>17,446,521</b>	<b>12,487,810</b>
<b>Eggs from—</b>	<b>Great Hundreds.</b>	<b>Great Hundreds.</b>	<b>Great Hundreds.</b>	<b>£</b>	<b>£</b>	<b>£</b>
Denmark . .	3,939,437	4,735,275	5,734,577	7,032,357	5,455,373	5,644,967
Germany . .	6,960	3,735	23,446	11,112	3,502	15,029
Netherlands . .	48,474	505,493	650,200	73,748	573,804	571,277
France . .	15,160	53,546	319,030	24,836	56,793	195,492
Italy . .	...	...	319,034	...	...	244,246
China . .	731,334	463,233	1,057,086	824,600	462,392	639,026
United States . .	331,185	221,889	337,301	553,211	253,278	289,808
Egypt . .	556,740	642,000	1,259,590	587,450	508,256	752,867
Canada . .	807,281	684,480	495,729	1,478,933	788,069	448,576
Other countries . .	623,937	3,242,853	3,465,628	983,091	294,361	2,500,364
<b>Total . .</b>	<b>7,060,508</b>	<b>10,557,504</b>	<b>13,661,671</b>	<b>11,569,338</b>	<b>11,395,828</b>	<b>11,301,652</b>

TABLE NO. 12.—NUMBER AND VALUE OF LIVE CATTLE, SHEEP, AND PIGS imported into the United Kingdom in the undermentioned Years. [*From Trade and Navigation Returns.*]

	Number.			Value.		
	1920.	1921.	1922.	1920.	1921.	1922.
<b>CATTLE, from—</b>				£	£	£
Channel Islands . . .	..	..	..	..	..	..
Canada . . . . .	..	31,074	19,060	..	1,236,506	567,727
United States . . . .	..	34,890	29,595	..	1,519,685	1,412,858
Argentine Republic . .	..	..	..	..	..	..
Other countries . . . .	..	..	2	..	..	60
<b>Total . . . . .</b>	..	66,674	49,557	..	2,756,193	1,580,155
<b>SHEEP AND LAMBS, from—</b>						
Canada . . . . .	..	2,056	..	..	9,401	..
United States . . . .	..	8,648	..	..	38,724	..
Argentine Republic . .	..	..	..	..	..	..
Other countries . . . .	..	..	..	..	..	..
<b>Total . . . . .</b>	..	10,704	..	..	48,125	..
<b>PIGS (not separately enumerated)</b>	..	..	..	..	..	..
<b>TOTAL VALUE OF ANIMALS LIVING FOR FOOD</b>	..	..	..	..	2,804,318	1,580,155

TABLE NO. 13.—NUMBER OF HORSES, CATTLE, SHEEP, AND PIGS imported into Great Britain from Ireland in each of the Years 1916-1922.

	1916.	1917.	1918.	1919.	1920.	1921.	1922.
<b>*HORSES :—</b>							
Stallions . . . . .	272	357	303	334	376	263	347
Mares . . . . .	2,779	2,062	8,462	8,028	11,494	11,316	11,445
Geldings . . . . .	3,827	3,183	11,376	12,370	12,849	9,873	11,553
<b>Total . . . . .</b>	6,878	5,602	20,081	21,782	24,719	21,452	23,345
<b>CATTLE: Oxen, Bulls, and Cows :—</b>							
Fat . . . . .	423,733	404,787	375,705	531,842	452,481	376,138	420,308
Store . . . . .	442,745	394,865	289,694	194,781	399,049	318,141	480,697
Other cattle . . . . .	9,398	62,952	33,961	29,947	47,106	34,010	46,295
Calves . . . . .	13,180	25,992	20,752	8,681	27,290	39,201	30,955
<b>Total . . . . .</b>	889,056	888,596	720,112	765,251	925,926	767,490	978,255
<b>SHEEP :—</b>							
Sheep . . . . .	313,467	415,333	310,837	376,915	243,525	243,651	387,032
Lambs . . . . .	323,270	347,773	304,036	230,280	331,215	337,610	377,731
<b>Total . . . . .</b>	636,737	763,111	614,873	507,145	574,740	581,261	714,763
<b>PIGS :—</b>							
Fat . . . . .	263,989	185,958	165,712	192,540	158,872	62,794	128,504
Store . . . . .	14,158	13,873	4,597	5,773	7,750	3,056	205
<b>Total . . . . .</b>	278,147	199,831	170,309	198,313	166,622	65,850	128,709

\* Not including Army Horses.

## EDINBURGH CORN MARKET.

STATEMENT SHOWING THE PRICES PER QUARTER OF WHEAT, BARLEY, AND OATS FOR THE YEAR 1922.

The feature of the Grain Markets in 1922 was the sudden fall in prices about the beginning of September, when the new crop came on the market, and it became clear that the world's production would be sufficient to meet the requirements of the new cereal year.

The offering of grain by farmers and others in the area of the Market was not resumed during the year except for the exposure of a few samples of Wheat and Oats at intervals. It is hoped that advantage will be taken of the privilege afforded to farmers and merchants of offering grain in the open market, as undoubtedly it enables them to secure the market value, and gives a desirable indication of the true value of the various grains.

The following statement gives a record of the year's proceedings in Edinburgh Corn Market.

1922.	WHEAT.				BARLEY.								OATS.								
	Highest.		Lowest.		Malting.				Second Quality.				Milling.				Feeding.				
					Highest.		Lowest.		Highest.		Lowest.		Highest.		Lowest.		Highest.		Lowest.		
	s.	d.	s.	d.	s.	d.	s.	d.	s.	d.	s.	d.	s.	d.	s.	d.	s.	d.	s.	d.	s.
January	4	41	0	40	0	42	6	37	6	37	6	26	6	28	0	27	0	25	0	..	..
"	11	43	0	42	0	42	6	37	6	..	..	..	..	28	0	27	0	24	6	..	..
"	18	43	0	42	0	42	6	37	6	39	0	37	0	28	6	27	0	..	..	..	..
"	25	44	0	42	0	42	0	40	0	40	0	39	0	28	6	27	0	..	..	..	..
February	1	45	0	43	0	43	0	38	0	..	..	..	..	28	6	27	0	25	0	..	..
"	8	47	0	45	0	42	0	37	0	..	..	..	..	28	6	27	0	25	0	..	..
"	15	50	0	47	0	43	0	37	0	..	..	..	..	28	6	27	0	25	6	..	..
"	22	54	0	51	0	43	0	37	6	..	..	..	..	30	0	28	6	..	..	..	..
March	1	55	0	53	0	43	6	38	0	..	..	..	..	31	3	29	0	28	0	..	..
"	8	55	0	52	0	43	6	38	0	..	..	..	..	32	6	29	0	28	0	..	..
"	15	51	6	48	0	44	0	38	0	..	..	..	..	32	0	30	6	30	0	..	..
"	22	51	0	48	0	44	0	38	0	..	..	..	..	32	0	30	0	30	0	..	..
"	29	46	0	47	0	44	0	38	0	..	..	..	..	31	6	30	0	26	6	..	..
April	5	47	6	46	0	44	0	38	0	..	..	..	..	30	6	29	0	28	0	..	..
"	12	47	6	46	0	44	6	39	0	..	..	..	..	31	0	29	0	27	6	..	..
"	19	49	0	47	0	44	6	39	0	..	..	..	..	31	6	30	0	28	0	27	6
"	26	52	0	50	0	44	0	39	0	..	..	..	..	32	6	31	0	29	0	28	0
May	3	54	6	52	0	45	0	40	0	..	..	..	..	34	0	32	6	..	..	..	..
"	10	54	0	52	0	45	0	40	0	..	..	..	..	34	6	33	0	..	..	..	..
"	17	54	0	52	0	45	0	42	0	..	..	..	..	35	0	34	0	..	..	..	..
"	24	53	0	51	0	45	0	42	0	..	..	..	..	35	0	34	0	..	..	..	..
"	31	50	0	49	0	45	0	43	0	..	..	..	..	35	0	34	0	..	..	..	..
June	7	49	0	47	0	45	0	43	0	..	..	..	..	35	0	34	0	..	..	..	..
"	14	46	6	45	0	..	..	..	..	..	..	..	..	35	0	34	0	..	..	..	..
"	21	46	0	45	0	..	..	..	..	..	..	..	..	35	0	34	0	..	..	..	..
"	28	..	..	..	..	..	..	..	..	..	..	..	..	35	0	34	0	..	..	..	..
July	5	48	0	47	0	..	..	..	..	..	..	..	..	34	0	33	0	..	..	..	..
"	12	50	0	49	0	..	..	..	..	..	..	..	..	34	6	33	6	..	..	..	..
"	19	52	0	51	6	..	..	..	..	..	..	..	..	34	0	33	0	..	..	..	..
"	26	54	0	53	0	..	..	..	..	..	..	..	..	34	6	34	0	..	..	..	..
August	2	54	6	54	0	..	..	..	..	..	..	..	..	35	0	34	6	..	..	..	..
"	9	54	9	54	0	..	..	..	..	..	..	..	..	36	0	35	0	..	..	..	..
"	16	58	6	53	0	..	..	..	..	..	..	..	..	37	0	36	6	..	..	..	..
"	23	54	0	53	6	..	..	..	..	..	..	..	..	37	0	36	6	..	..	..	..
"	30	53	6	..	..	..	..	..	..	..	..	..	..	36	0	35	0	..	..	..	..
September	6	..	..	..	40	0	..	..	..	..	..	..	..	30	0	29	0	..	..	..	..
"	13	..	..	..	44	0	40	0	..	..	..	..	..	26	0	25	0	..	..	..	..
"	20	42	0	40	0	44	0	38	0	..	..	..	..	26	6	25	0	..	..	..	..
"	27	41	0	38	0	38	0	37	0	..	..	..	..	27	0	26	0	..	..	..	..
October	4	41	0	40	0	43	0	39	0	..	..	..	..	28	0	27	0	..	..	..	..
"	11	44	0	37	0	45	0	37	0	..	..	..	..	30	0	28	0	..	..	..	..
"	18	45	0	39	0	47	0	40	0	..	..	..	..	31	0	29	0	..	..	..	..
"	25	45	0	39	0	46	0	40	0	40	0	35	0	30	0	29	0	28	0	26	0
November	1	45	0	42	0	47	0	40	0	36	0	33	0	31	0	29	0	28	0	26	0
"	8	43	0	40	0	47	0	40	0	37	0	33	0	31	0	29	0	28	0	26	0
"	15	40	0	38	6	47	0	40	0	37	0	34	0	31	0	29	0	28	0	25	6
"	22	42	0	39	0	47	0	40	0	37	0	33	0	30	6	29	0	27	0	24	0
"	29	42	0	41	0	48	0	46	0	37	0	34	0	30	6	29	6	27	0	25	0
December	6	43	0	42	9	48	0	46	0	36	0	32	0	30	0	29	0	27	0	25	0
"	13	44	0	42	0	45	0	40	0	37	0	30	0	29	0	28	0	26	0	25	0
"	20	44	0	43	0	46	0	45	0	35	0	30	0	29	0	28	0	26	0	25	0
"	27	44	0	42	0	44	0	39	0	35	0	30	0	29	6	28	6	27	0	25	0



### PRICES OF SHEEP SINCE 1818.

**TABLE No. 1.—CHEVIOT SHEEP.**

Year.	Wethers.				Ewes.				Lambs.						
	s.	d.	to	s.	d.	s.	d.	s.	d.	s.	d.	to	s.	d.	
1818	28	0	to	30	0	not quoted.				8	0	to	10	0	
1819	25	0	"	27	0	15	0	to	17	0	10	6	"	12	0
1820	20	0	"	25	0	16	0	"	17	0	10	0	"	11	0
1821	18	0	"	20	0	14	0	"	16	0	7	6	"	8	0
1822	12	6	"	13	0	8	0	"	8	6	4	6	"	0	0
1823	13	6	"	18	0	7	0	"	10	6	5	6	"	6	0
1824	14	0	"	19	0	7	0	"	9	0	4	6	"	6	0
1825	20	0	"	32	0	15	0	"	19	0	9	0	"	10	6
1826	17	8	"	21	6	13	0	"	15	0	7	0	"	7	6
1827	15	0	"	24	0	not quoted.				7	0	"	8	0	
1828	18	0	"	27	6	12	0	to	15	0	7	0	"	8	3
1829	18	0	"	24	0	12	6	"	14	0	7	0	"	8	6
1830	15	0	"	21	0	8	0	"	11	0	6	0	"	6	9
1831	18	0	"	25	0	9	0	"	13	0	7	0	"	8	0
1832	19	0	"	24	0	11	0	"	16	0	7	0	"	9	0
1833	22	0	"	31	0	13	6	"	20	0	8	0	"	11	3
1834	22	0	"	31	0	13	6	"	21	0	9	0	"	11	6
1835	22	0	"	27	6	18	0	"	20	6	8	0	"	11	0
1836	24	0	"	31	6	16	0	"	19	0	10	0	"	13	0
1837	19	0	"	28	0	14	0	"	19	0	10	0	"	14	0
1838	23	0	"	30	6	17	0	"	22	0	12	0	"	14	0
1839	23	0	"	31	0	14	0	"	19	0	0	0	"	13	0
1840	24	0	"	33	0	15	0	"	23	0	7	0	"	11	6
1841	23	0	"	30	0	14	0	"	22	0	8	0	"	12	0
1842	22	6	"	28	0	13	0	"	17	0	7	6	"	10	0
1843	19	0	"	25	0	8	0	"	12	0	5	0	"	8	0
1844	21	0	"	29	0	10	0	"	16	0	8	0	"	10	6
1845	23	0	"	33	0	13	0	"	20	0	8	0	"	13	0
1846	24	0	"	33	6	14	6	"	21	6	10	0	"	14	6
1847	24	0	"	35	0	13	0	"	24	0	11	6	"	15	0
1848	23	0	"	34	6	13	0	"	28	0	11	6	"	15	0
1849	21	0	"	30	2	12	0	"	21	0	0	0	"	14	0
1850	20	6	"	29	6	12	0	"	20	0	8	0	"	13	0
1851	21	6	"	31	0	13	0	"	21	0	8	9	"	14	0
1852	21	0	"	32	0	15	0	"	23	0	8	0	"	14	0
1853	26	6	"	38	0	17	0	"	28	6	9	0	"	17	0
1854	25	0	"	36	0	17	0	"	26	0	9	0	"	16	6
1855	23	6	"	36	0	16	0	"	25	0	10	0	"	17	0
1856	22	0	"	35	6	15	6	"	24	0	10	0	"	15	0
1857	24	0	"	36	0	14	6	"	26	0	10	6	"	14	6
1858	24	0	"	34	6	14	0	"	24	6	10	6	"	14	0
1859	25	0	"	34	6	16	0	"	25	0	10	3	"	14	9
1860	26	0	"	38	0	17	6	"	27	6	12	6	"	17	6
1861	25	0	"	38	6	16	0	"	28	0	9	0	"	16	0
1862	27	0	"	37	6	17	6	"	28	0	10	0	"	16	0
1863	25	0	"	38	6	19	0	"	28	6	10	6	"	16	0
1864	31	0	"	41	0	21	0	"	31	6	14	0	"	18	0
1865	32	6	"	44	0	22	6	"	33	6	14	6	"	20	0
1866	37	0	"	50	0	29	0	"	42	6	15	0	"	28	0
1867	26	0	"	58	0	18	0	"	25	6	12	0	"	16	0
1868	30	0	"	32	0	15	6	"	21	0	7	6	"	13	0
1869	28	0	"	38	0	15	0	"	22	6	7	6	"	14	0
1870	35	6	"	43	0	18	0	"	28	0	10	0	"	17	0
1871	36	6	"	49	0	22	0	"	33	6	14	0	"	20	0
1872	45	0	"	56	0	32	0	"	42	0	16	0	"	22	0
1873	42	0	"	51	0	25	9	"	42	0	15	6	"	22	0
1874	33	6	"	44	6	21	0	"	36	0	12	0	"	17	0
1875	33	0	"	48	6	21	0	"	34	0	13	6	"	23	6
1876	40	0	"	52	6	23	0	"	30	0	13	6	"	25	0
1877	41	0	"	51	0	25	0	"	37	0	15	0	"	24	0
1878	35	6	"	48	0	23	6	"	35	0	14	0	"	22	0
1879	34	0	"	44	0	21	0	"	34	0	14	0	"	20	0

TABLE No. 1.—CHEVIOT SHEEP—*Continued.*

Year.	Wethers.				Ewes.				Lambs.			
	s.	d.	s.	d.	s.	d.	s.	d.	s.	d.	s.	d.
1880	30	0	to	43	6	20	0	to	30	0	12	6
1881	32	0	"	45	6	29	0	"	34	0	14	0
1882	40	0	"	51	0	30	0	"	40	0	14	0
1883	44	0	"	55	6	34	6	"	46	6	15	6
1884	36	0	"	47	6	29	6	"	41	6	12	6
1885	30	0	"	38	0	24	0	"	31	0	12	0
1886	32	0	"	40	0	21	0	"	29	0	12	6
1887	29	0	"	36	0	18	0	"	26	0	11	0
1888	30	0	"	38	0	19	0	"	27	0	12	0
1889	36	0	"	44	0	24	0	"	32	0	14	0
1890	31	0	"	40	0	22	0	"	30	0	12	6
1891	27	0	"	38	0	16	0	"	25	0	9	0
1892	22	0	"	30	6	18	0	"	22	0	5	0
1893	26	0	"	35	6	18	0	"	28	6	8	6
1894	26	0	"	37	0	20	0	"	31	0	10	6
1895	28	0	"	39	0	22	0	"	34	0	11	6
1896	24	6	"	34	0	19	0	"	30	6	9	0
1897	27	0	"	36	0	21	0	"	31	6	11	0
1898	27	0	"	37	0	22	0	"	32	6	12	0
1899	24	0	"	33	0	20	0	"	30	6	10	6
1900	26	0	"	36	0	22	0	"	32	6	12	0
1901	25	0	"	32	6	20	0	"	29	6	11	0
1902	24	0	"	31	6	18	0	"	27	0	9	6
1903	26	0	"	34	0	21	0	"	31	0	11	4
1904	28	6	"	36	6	23	0	"	32	6	13	0
1905	27	6	"	35	0	23	0	"	33	0	14	0
1906	30	0	"	38	0	26	0	"	34	6	15	0
1907	28	0	"	34	0	22	0	"	30	6	13	6
1908	26	0	"	32	6	21	0	"	27	6	11	6
1909	24	0	"	31	0	18	0	"	25	6	9	6
1910	27	0	"	35	0	22	0	"	31	0	12	0
1911	24	0	"	31	6	18	6	"	27	6	10	6
1912	26	0	"	34	6	22	0	"	31	0	13	0
1913	30	0	"	39	0	24	0	"	35	6	16	0
1914	32	6	"	41	0	28	0	"	39	0	18	0
1915	36	0	"	46	0	31	0	"	44	0	20	0
1916	40	6	"	51	0	34	0	"	49	0	22	0
1917	43	6	"	56	0	38	0	"	56	0	24	0
1918	50	0	"	6	0	42	0	"	61	0	25	0
1919	53	0	"	0	0	44	6	"	67	0	28	0
1920	56	0	"	0	0	48	0	"	79	0	34	0
1921	45	0	"	0	0	52	3	"	85	0	33	0
1922	40	0	"	0	0	56	0	"	90	6	27	0

TABLE No. 2.—BLACKFACE SHEEP.

Year.	Wethers.				Ewes.				Lambs.			
	s.	d.	s.	d.	s.	d.	s.	d.	s.	d.	s.	d.
1819	22	0	to	24	0	12	0	to	15	0	8	0
1820	20	0	"	23	6	15	6	"	17	0	7	0
1821	18	0	"	20	0	12	0	"	13	0	6	0
1822	11	6	"	13	6	5	6	"	6	0	4	6
1823	12	0	"	16	0	5	0	"	6	6	4	0
1824	9	6	"	13	6	6	0	"	7	0	4	0
1825	22	0	"	26	0	11	0	"	13	6	6	0
1826	15	0	"	17	6	8	0	"	9	0	4	6
1827	14	0	"	18	6	7	0	"	10	0	6	0
1828	15	0	"	20	6	8	0	"	11	0	5	6
1829	14	0	"	18	0	9	0	"	10	0	6	0
1830	9	6	"	13	0	4	9	"	6	0	4	6
1831	13	0	"	17	0	5	0	"	7	6	5	0
1832	14	0	"	18	0	7	0	"	11	6	6	0
1833	16	0	"	24	0	7	6	"	12	0	6	6

TABLE NO. 2.—BLACKFACE SHEEP—Continued.

Year.	Wethers.				Ewes.				Lambs.			
	s.	d.	to	s. d.	s.	d.	to	s. d.	s.	d.	to	s. d.
1834	16	0	to	22 0	10	0	to	13 0	6	0	to	8 6
1835	15	0	"	18 9	10	0	"	13 0	7	0	"	8 0
1836	15	0	"	21 0	9	0	"	12 0	8	6	"	11 0
1837	18	0	"	16 0	8	0	"	12 0	8	0	"	9 6
1838	15	9	"	20 6	10	0	"	13 0	not quoted.			
1839	15	0	"	22 0	10	0	"	12 0	7	0	to	8 3
1840	16	0	"	22 6	11	0	"	12 0	7	0	"	9 3
1841	16	0	"	20 0	9	0	"	11 0	6	0	"	8 0
1842	14	0	"	19 0	7	6	"	8 0	5	6	"	7 0
1843	not quoted.				4	9	"	6 6	not quoted.			
1844	15	0	to	21 0	6	6	"	10 0	5	0	to	8 0
1845	14	0	"	23 0	8	0	"	12 0	6	0	"	8 0
1846	18	0	"	24 0	10	0	"	13 0	8	0	"	9 0
1847	20	6	"	25 0	10	0	"	14 0	8	6	"	9 6
1848	20	0	"	24 0	11	3	"	12 0	8	6	"	10 0
1849	not quoted.				not quoted.				7	0	"	7 6
1850									7	0	"	0 0
1851	17	6	to	23 0	9	0	to	12 0	6	6	"	8 0
1852	18	6	"	22 0	9	6	"	12 0	4	6	"	7 9
1853	23	0	"	27 0	14	6	"	16 6	8	0	"	11 6
1854	20	0	"	26 0	11	0	"	16 6	8	0	"	10 6
1855	23	6	"	26 6	14	0	"	16 0	10	0	"	11 0
1856	17	0	"	24 0	10	0	"	20 0	7	6	"	10 0
1857	20	0	"	29 0	10	6	"	15 0	9	3	"	11 0
1858	20	0	"	27 6	9	9	"	18 9	8	3	"	10 6
1859	20	0	"	25 9	10	0	"	14 0	8	9	"	11 0
1860	21	0	"	27 3	11	0	"	16 0	10	0	"	13 6
1861	21	0	"	29 0	12	0	"	22 0	6	3	"	14 0
1862	16	9	"	27 0	12	0	"	18 8	6	0	"	12 0
1863	20	0	"	30 6	13	0	"	16 0	8	0	"	11 6
1864	25	0	"	30 0	15	0	"	19 0	10	0	"	13 6
1865	15	6	"	32 6	15	0	"	25 0	10	0	"	17 0
1866	31	6	"	40 0	20	0	"	36 0	13	6	"	22 6
1867	20	0	"	30 6	14	0	"	22 0	7	6	"	13 6
1868	20	0	"	26 0	10	6	"	13 6	7	0	"	13 0
1869	22	0	"	28 0	11	0	"	14 0	6	9	"	9 0
1870	27	0	"	32 6	13	0	"	22 0	8	0	"	14 6
1871	23	0	"	37 0	13	0	"	23 6	11	0	"	16 3
1872	31	6	"	45 0	18	0	"	32 6	12	6	"	18 0
1873	28	0	"	39 0	16	6	"	27 6	7	0	"	16 0
1874	25	0	"	35 0	13	0	"	20 0	7	0	"	14 0
1875	26	6	"	37 6	15	0	"	21 0	9	6	"	17 6
1876	30	0	"	40 0	19	0	"	24 0	13	0	"	20 6
1877	35	0	"	38 9	18	0	"	23 6	13	6	"	23 0
1878	30	0	"	36 0	17	0	"	23 0	12	0	"	22 0
1879	25	0	"	35 9	16	0	"	24 0	10	6	"	20 0
1880	25	0	"	38 0	16	6	"	22 6	10	0	"	17 0
1881	30	0	"	39 0	15	0	"	23 0	10	0	"	15 0
1882	33	0	"	46 0	20	0	"	28 0	12	6	"	18 6
1883	36	0	"	50 6	24	6	"	33 0	14	0	"	21 6
1884	29	0	"	43 6	19	6	"	28 0	12	0	"	19 6
1885	24	0	"	34 0	13	0	"	22 6	10	0	"	15 0
1886	25	0	"	34 0	12	0	"	22 0	10	6	"	16 0
1887	22	0	"	30 0	11	0	"	19 0	8	0	"	13 0
1888	22	0	"	32 0	13	0	"	24 0	10	0	"	15 0
1889	26	0	"	40 0	18	0	"	29 0	13	0	"	22 0
1890	24	0	"	37 0	14	0	"	27 0	10	6	"	19 0
1891	21	0	"	37 0	10	0	"	24 0	7	6	"	15 0
1892	16	0	"	28 6	6	0	"	17 0	3	0	"	10 0
1893	21	0	"	37 0	12	0	"	24 0	7	0	"	14 6
1894	20	0	"	37 6	14	6	"	26 6	8	6	"	16 0
1895	23	0	"	41 0	16	0	"	28 6	9	0	"	17 0
1896	19	0	"	35 4	13	0	"	24 0	6	0	"	13 6
1897	21	0	"	36 6	15	0	"	25 6	7	0	"	14 6
1898	22	0	"	37 0	16	0	"	26 6	8	0	"	15 0
1899	20	0	"	35 6	13	0	"	24 0	5	6	"	13 0
1900	23	6	"	36 0	16	0	"	26 6	8	0	"	15 6
1901	20	0	"	35 0	14	0	"	25 6	6	6	"	14 6
1902	18	6	"	34 0	12	0	"	24 0	6	0	"	14 0
1903	21	0	"	36 0	15	0	"	28 0	7	0	"	16 6
1904	23	0	"	38 6	18	0	"	30 0	8	6	"	17 6
1905	21	6	"	37 0	19	0	"	31 0	9	0	"	18 6

TABLE NO. 2.—BLACKFACE SHEEP—*Continued.*

Year.	Wethers.				Ewes.				Lambs.						
	s.	d.	s.	d.	s.	d.	s.	d.	s.	d.	s.	d.			
1906	23	0	to	38	0	20	0	to	33	0	10	0	to	19	6
1907	21	0	"	33	6	17	0	"	28	0	8	6	"	17	6
1908	19	6	"	30	0	15	0	"	24	6	8	0	"	16	0
1909	17	0	"	28	0	11	6	"	22	0	6	3	"	13	0
1910	21	0	"	32	6	16	0	"	27	6	8	0	"	17	0
1911	19	0	"	29	6	14	0	"	24	0	7	0	"	15	0
1912	21	6	"	32	6	17	0	"	27	6	9	6	"	17	6
1913	24	6	"	36	0	21	0	"	31	0	12	6	"	21	6
1914	27	0	"	38	6	25	0	"	34	6	15	6	"	24	0
1915	31	0	"	42	6	29	0	"	39	6	17	0	"	25	6
1916	33	0	"	46	6	31	0	"	42	0	19	0	"	27	6
1917	36	0	"	51	0	33	0	"	47	0	21	0	"	30	0
1918	41	0	"	56	0	36	0	"	50	0	27	0	"	33	0
1919	44	0	"	62	0	39	0	"	54	0	29	0	"	36	0
1920	46	0	"	66	0	44	0	"	62	0	31	0	"	43	0
1921	32	9	"	60	9	35	3	"	62	6	20	3	"	47	0
1922	40	3	"	63	0	40	6	"	74	0	18	0	"	44	0

TABLE NO. 3.—PRICE OF WOOL, PER STONE OF 24 LB., SINCE 1818.

Year.	Laid Cheviot.				White Cheviot.				Laid Highland.				White Highland.			
	s.	d.	s.	d.	s.	d.	s.	d.	s.	d.	s.	d.	s.	d.	s.	d.
1818	40	0	to	42	2	..	..	..	20	0	to	22	6	..	..	..
1819	21	0	"	22	0	..	..	..	10	0	"	10	3	..	..	..
1820	20	0	"	22	0	..	..	..	9	0	"	10	0	..	..	..
1821	18	0	"	20	0	..	..	..	9	0	"	10	0	..	..	..
1822	12	6	"	14	6	..	..	..	5	0	"	6	6	..	..	..
1823	9	0	"	10	6	..	..	..	5	0	"	5	9	..	..	..
1824	13	6	"	15	0	..	..	..	6	0	"	6	3	..	..	..
1825	10	6	"	22	0	..	..	..	10	0	"	10	6	..	..	..
1826	11	0	"	14	0	..	..	..	5	0	"	5	6	..	..	..
1827	11	0	"	14	0	..	..	..	5	6	"	6	9	..	..	..
1828	8	0	"	11	0	..	..	..	5	6	"	6	0	..	..	..
1829	8	6	"	11	0	..	..	..	4	3	"	0	0	..	..	..
1830	9	6	"	11	0	..	..	..	4	6	"	5	0	..	..	..
1831	17	0	"	20	0	..	..	..	7	6	"	8	6	..	..	..
1832	14	0	"	16	0	..	..	..	7	0	"	7	6	..	..	..
1833	18	0	"	20	7	..	..	..	10	0	"	11	0	..	..	..
1834	21	0	"	24	6	..	..	..	5	6	"	7	0	..	..	..
1835	19	0	"	20	6	..	..	..	9	6	"	10	8	..	..	..
1836	21	0	"	25	0	..	..	..	10	0	"	14	0	..	..	..
1837	12	0	"	14	0	..	..	..	7	0	"	7	8	..	..	..
1838	19	0	"	22	6	..	..	..	6	0	"	10	0	..	..	..
1839	18	0	"	20	0	..	..	..	8	0	"	12	0	..	..	..
1840	15	0	"	0	0	..	..	..	7	0	"	0	0	..	..	..
1841	15	0	"	16	9	..	..	..	6	0	"	7	5	..	..	..
1842	12	6	"	14	0	..	..	..	not quoted.	..	..	..	..	..	..	..
1843	9	0	"	11	6	..	..	..	5	0	to	6	0	..	..	..
1844	15	0	"	18	0	..	..	..	not quoted.	..	..	..	..	..	..	..
1845	14	6	"	17	6	..	..	..	7	6	to	8	6	..	..	..
1846	12	0	"	14	6	..	..	..	8	0	"	8	6	..	..	..
1847	12	6	"	14	0	..	..	..	not quoted.	..	..	..	..	..	..	..
1848	9	6	"	11	0	..	..	..	4	9	to	0	0	..	..	..
1849	12	0	"	16	6	..	..	..	6	0	"	6	3	..	..	..
1850	15	0	"	17	6	..	..	..	8	0	"	8	6	..	..	..
1851	12	0	"	16	0	..	..	..	8	0	"	9	3	..	..	..
1852	13	0	"	15	0	..	..	..	8	0	"	9	0	..	..	..
1853	19	0	"	22	0	..	..	..	11	0	"	12	6	..	..	..
1854	12	0	"	15	0	..	..	..	7	6	"	8	6	..	..	..
1855	14	6	"	19	0	..	..	..	8	6	"	9	0	..	..	..
1856	19	0	"	21	6	..	..	..	11	0	"	0	0	..	..	..
1857	19	0	"	24	0	..	..	..	13	0	"	14	3	..	..	..
1858	15	0	"	17	0	..	..	..	8	9	"	10	0	..	..	..

TABLE No. 3.—PRICE OF WOOL—Continued.

Year.	Laid Cheviot.		White Cheviot.		Laid Highland.		White Highland.	
	s. d.	s. d.	s. d.	s. d.	s. d.	s. d.	s. d.	s. d.
1859	18 6	to 24 0			10 9	to 11 6		
1860	22 0	" 32 0	37 0	to 38 0	10 0	" 11 8	..	..
1861	19 6	" 37 0	from 80s. upwards.		not quoted.		..	..
1862	18 6	" 26 0	30 0	to 37 0	11 6	to 16 0	..	..
1863	25 6	" 31 0	38 0	" 42 0	16 8	" 17 6	..	..
1864	31 0	" 39 0	47 0	" 54 0	17 6	" 20 0	..	..
1865	23 0	" 30 0	44 0	" 45 0	15 0	" 17 0	..	..
1866	24 0	" 30 0	30 0	" 38 0	14 0	" 16 0	..	..
1867	16 0	" 21 6	not quoted.		not quoted.		..	..
1868	19 0	" 26 0	28 0	to 32 0	8 6	to 9 0	..	..
1869	18 0	" 26 6	not quoted.		8 6	" 10 0	..	..
1870	15 0	" 23 6	25 0	to 26 0	9 6	" 0 0	..	..
1871	20 0	" 26 6	30 0	" 34 6	12 0	" 15 0	..	..
1872	26 0	" 37 6	40 0	" 48 0	18 0	" 21 0	..	..
1873	17 0	" 18 0	34 0	" 40 0	9 0	" 12 0	..	..
1874	18 6	" 26 6	30 0	" 34 0	9 6	" 13 0	..	..
1875	25 0	" 32 0	34 6	" 36 0	12 6	" 16 0	..	..
1876	20 0	" 24 0	30 0	" 34 6	9 6	" 12 0	..	..
1877	20 9	" 26 0	28 0	" 30 0	10 0	" 13 0	..	..
1878	18 9	" 25 0	27 0	" 32 0	8 6	" 11 6	..	..
1879	15 0	" 17 0	prices very low.		7 0	" 0 0	..	..
1880	20 0	" 24 0	30 0	to 32 0	10 6	" 11 6	14 0	to 15 0
1881	17 0	" 21 0	27 0	" 30 0	5 0	" 9 6	12 0	" 13 0
1882	14 0	" 18 0	27 6	" 28 0	7 6	" 9 0	13 0	" 14 0
1883	13 0	" 18 0	26 0	" 28 0	6 6	" 8 6	11 6	" 12 6
1884	13 0	" 18 0	26 0	" 28 0	6 6	" 8 6	11 6	" 12 6
1885	12 0	" 17 0	22 6	" 26 0	6 0	" 8 0	11 6	" 12 0
1886	13 0	" 18 0	23 0	" 27 6	6 6	" 8 6	11 6	" 12 0
1887	14 0	" 22 0	23 0	" 28 0	7 0	" 9 0	11 6	" 13 0
1888	13 0	" 20 0	23 0	" 28 0	7 0	" 9 0	11 0	" 12 6
1889	13 0	" 18 0	24 0	" 28 0	7 0	" 9 0	11 0	" 12 6
1890	13 0	" 18 0	24 0	" 28 0	7 0	" 9 0	11 0	" 12 6
1891	12 6	" 18 0	22 0	" 28 0	7 0	" 9 0	11 0	" 12 6
1892	12 0	" 18 0	20 0	" 28 0	7 0	" 8 6	10 6	" 12 0
1893	12 0	" 17 0	20 0	" 27 0	7 0	" 8 0	10 0	" 12 0
1894	12 0	" 16 0	20 0	" 26 0	7 0	" 8 0	10 0	" 12 0
1895	12 0	" 16 0	20 0	" 25 0	7 0	" 8 0	10 0	" 11 6
1896	11 0	" 15 0	19 0	" 24 0	7 0	" 8 0	10 0	" 11 6
1897	11 0	" 14 0	18 0	" 23 0	7 0	" 8 0	10 6	" 12 0
1898	10 0	" 13 0	16 0	" 20 0	7 0	" 8 0	10 0	" 11 6
1899	10 0	" 13 0	13 0	" 18 6	7 0	" 8 0	8 6	" 9 6
1900	9 9	" 12 0	13 0	" 18 6	6 9	" 7 9	8 0	" 9 6
1901	9 0	" 10 0	11 0	" 16 6	5 9	" 6 6	8 0	" 9 0
1902	9 0	" 10 0	11 6	" 17 0	6 0	" 6 6	8 6	" 9 6
1903	10 0	" 12 0	15 0	" 18 0	7 0	" 8 0	11 6	" 12 6
1904	15 0	" 17 0	20 0	" 21 0	9 0	" 10 0	14 0	" 15 0
1905	17 0	" 20 0	24 0	" 26 0	10 0	" 11 0	15 0	" 16 0
1906	18 0	" 21 0	27 6	" 28 6	11 6	" 13 0	16 6	" 17 6
1907	*		22 0	" 24 0	11 0	" 12 6	16 0	" 17 0
1908	*		16 0	" 18 0	†		8 0	" 8 6
1909	*		24 0	" 26 0	†		12 6	" 14 0
1910	*		25 0	" 30 0	†		13 0	" 14 6
1911	*		25 0	" 30 0	†		13 0	" 14 6
1912	*		24 0	" 29 0	†		14 0	" 15 0
1913	*		25 0	" 30 0	†		17 0	" 18 0
1914	*		24 0	" 29 0	†		15 0	" 15 6
1915 †	*		42 0	" 46 0	†		21 0	" 22 0

## PRICE OF WOOL PER STONE OF 24 LB.—Continued.

		OHEVIOT.				HALF-BRED.				BLACK-FACE.		CROSS-BRED (BLACKFACE EWE AND LEICESTER RAM).			
		Hogg.		EWE AND WETHER.		Hogg.		EWE AND WETHER.		Hogg.	EWE AND WETHER.	Hogg.		EWE AND WETHER.	
		Washed.	Un- washed.	Washed.	Un- washed.	Washed.	Un- washed.	Washed.	Un- washed.			Washed.	Un- washed.	Washed.	Un- washed.
		s. d.	s. d.	s. d.	s. d.	s. d.	s. d.	s. d.	s. d.	s. d.	s. d.	s. d.	s. d.	s. d.	s. d.
1 1916	CAITHNESS & SUTHERLAND	36 6	30 0	33 0	27 6	34 6	28 6	33 0	27 6	23 0	23 0	28 6	25 6	28 6	25 6
1 1917	CAITHNESS & SUTHERLAND	40 0	32 6	34 0	29 0	35 0	29 0	34 0	28 6	25 6	25 6	31 6	28 6	31 0	28 6
1 1918	CAITHNESS & SUTHERLAND	48 6	35 6	39 6	33 0	41 0	33 6	39 6	33 0	27 0	27 0	33 6	30 6	33 6	30 6
1919	CAITHNESS & SUTHERLAND	84 0	70 0	82 0	66 0	82 0	62 0	70 0	58 0	34 0	34 0	46 0	39 0	44 0	38 0
1920	CAITHNESS & SUTHERLAND	86 0	70 0	83 0	66 0	74 0	54 0	65 0	50 0	24 0	24 0	35 0	29 0	34 0	27 0
1921	CAITHNESS & SUTHERLAND	22 0	17 0	19 0	15 0	18 6	14 6	16 0	13 0	9 6	9 6	12 0	10 0	12 0	10 0
1922	CAITHNESS & SUTHERLAND	30 0	25 0	26 0	22 0	26 0	20 0	22 0	18 0	16 0	16 0	16 6	15 0	16 6	15 0
	CAITHNESS & SUTHERLAND	31 6	26 0	27 0	23 0	27 0	21 0	23 0	19 0						

<sup>1</sup> The prices given were prices fixed by Government, and not free market prices.

## GENERAL SHOW AT DUMFRIES, 1922.

THE Show of the Society for 1922 took place at Dumfries on Tuesday, 18th July, and three following days. This was the Society's ninety-first general Show, and the eleventh held at Dumfries. The occasion was noteworthy as being the hundredth anniversary of the Society's first Show, which was held in Edinburgh in 1822.

The Show, as in 1910, was held at Rochell Park. On this occasion, however, an additional six acres of ground were secured in an adjacent field, giving about thirty-six acres in all, and this additional space facilitated the laying out of the Showyard in a convenient and attractive manner.

The weather on the Tuesday and Wednesday was fine. On Thursday afternoon and evening there was a heavy rainfall. Friday again was fine. The attendance of the public was very large, the drawings at the gate and grand stands reaching a total of £11,452, being more than three times the amount drawn at Dumfries on the preceding occasion, and only £1300 less than the drawings at Stirling in 1921. The town of Dumfries provided a supply of water free of charge, together with a donation of £50 to the Show funds.

The number of entries in the various sections of live stock, compared with recent years, was well maintained, and the quality of the exhibits was of a high order. There was an excellent and comprehensive display of modern agricultural implements and machinery.

A new feature of the Show was a section for Rural Industries, in which prizes were offered in fifteen Open and six Confined Classes. A large entry was secured, and the exhibition attracted much interest.

A new pavilion for the use of lady members was also erected. This building has a permanent frontage, which is intended to provide a memento of the hundredth anniversary of the first Show. The accommodation thus provided was much appreciated by the increasing number of lady members, and by lady friends of members to whom it was made available.

The accounts show a credit balance of £1090. If to this is added the cost of the front of the lady members' pavilion, amounting to £250, and the value of timber retained by the Society for use at subsequent Shows, amounting to £400, there is a profit on the Show of approximately £1740.

## STATISTICS.

The following tables give the number of entries in the various sections :—

## 1. CATTLE.

Class.	SHORTHORN.	No. of Entries.
1. Aged bulls . . . . .		5
2. Two-year-old bulls . . . . .		8
3. One-year-old bulls . . . . .		8
4. One-year-old bulls . . . . .		12
5. Cows of any age . . . . .		10
6. Two-year-old heifers or cows . . . . .		10
7. One-year-old heifers . . . . .		19
		— 72
	ABERDEEN-ANGUS.	
8. Aged bulls . . . . .		9
9. Two-year-old bulls . . . . .		4
10. One-year-old bulls . . . . .		6
11. Cows of any age . . . . .		8
12. Two-year-old heifers . . . . .		9
13. One-year-old heifers . . . . .		13
		— 49
	GALLOWAY.	
14. Aged bulls . . . . .		6
Extra Stock . . . . .		1
15. Two-year-old bulls . . . . .		8
16. One-year-old bulls . . . . .		8
17. Cows of any age . . . . .		1
Extra Stock . . . . .		2
18. Two-year-old heifers . . . . .		15
19. One-year-old heifers . . . . .		23
		— 74
	HIGHLAND.	
20. Aged bulls . . . . .		3
21. Two-year-old bulls . . . . .		5
22. One-year-old bulls . . . . .		3
23. Cows of any age . . . . .		3
24. Three-year-old heifers . . . . .		4
25. Two-year-old heifers . . . . .		5
		— 23
	AYRSHIRE.	
26. Cows in milk, calved before 1919 . . . . .		18
27. Cows in milk, calved after 1st January 1919 . . . . .		6
28. Cows of any age, in calf, and due to calve before 1st December of the year of the Show . . . . .		14
Extra Stock . . . . .		2
29. Heifer, calved in or after 1919, in calf, and due to calve before 1st December of the year of the Show . . . . .		21
30. Two-year-old heifers . . . . .		11
31. One-year-old heifers . . . . .		13
32. Aged bulls . . . . .		7
Extra Stock . . . . .		1
33. Two-year-old bulls . . . . .		10
34. One-year-old bulls . . . . .		7
		— 110
	BRITISH FRIESIAN.	
35. Bulls calved in or before 1919 . . . . .		6
36. Bulls calved in 1920 . . . . .		2
37. Bulls calved in 1921 . . . . .		5
38. Cows in milk, calved in or before 1918 . . . . .		4
39. Heifers in milk, calved in 1919 or 1920 . . . . .		1
40. Heifers in calf with her first calf, to calve before 3 years old . . . . .		4
41. Heifers calved in 1921 . . . . .		4
		— 26



## RED POLL.

42. Bulls of any age . . . . .	12
43. Cows or Heifers, in milk or in calf, calved in or before 1919 . . . . .	10
44. Heifers calved in 1920 or 1921 . . . . .	10
	— 32

## BELTED GALLOWAY.

45. Bulls calved before 1st December 1920 . . . . .	6
46. Bulls calved on or after 1st December 1920 . . . . .	3
47. Cows or Heifers, calved before 1st December 1919, in milk or in calf ; if in calf to calve on or before 1st December of the year of the Show . . . . .	8
48. Heifers calved on or after 1st December 1919 . . . . .	11
	— 28

## EXTRA CATTLE—BLUE GREY.

49. Steer, calved on or after 1st January 1920 . . . . .	3
50. Steer, calved on or after 1st January 1921 . . . . .	5
	— 8
	<u>422</u>

## 2. HORSES.

## DRAUGHT STALLIONS.

51. Aged stallions . . . . .	17
52. Three-year-old entire colts . . . . .	8
53. Two-year-old entire colts . . . . .	13
54. One-year-old entire colts . . . . .	20
	— 58

## DRAUGHT GELDINGS.

55. Aged geldings . . . . .	4
56. Three-year-old geldings . . . . .	11
57. Two-year-old geldings . . . . .	5
	— 20

## DRAUGHT MARES AND FILLIES.

58. Mares of any age with foal at foot . . . . .	8
59. Yeld mares, foaled before 1919 . . . . .	11
60. Three-year-old yeld mares, or fillies . . . . .	8
61. Two-year-old fillies . . . . .	14
62. One-year-old fillies . . . . .	20
	— 61

## HUNTERS.

63. Hunter brood mares, with foal at foot . . . . .	5
64. Yeld mares, fillies, or geldings, for field, foaled in 1919, in hand . . . . .	5
65. Yeld mares, fillies, or geldings, for field, foaled in 1920, in hand . . . . .	8
66. Colts, geldings, or fillies, foaled in 1921, the produce of thoroughbred stallions or registered hunter sires, out of mares of any breed . . . . .	6
67. Mares or geldings, foaled in 1918, in saddle . . . . .	4
68. Mares or geldings, foaled before 1918, to carry any weight up to 13 st. 7 lb., in saddle . . . . .	7
69. Mares or geldings, foaled before 1918, to carry 13 st. 7 lb. and over, in saddle . . . . .	5
70. Hack of hunter type, foaled in or before 1918, 15.2 hands and under, in saddle . . . . .	5
	— 45

## HACKNEYS.

71. Brood mares, over 14 hands, with foal at foot or to foal this season to a registered sire . . . . .	2
72. Yeld mares or fillies, three years old . . . . .	2
73. Entire colts or fillies, foaled in 1920 . . . . .	1
74. Entire colt or filly, foaled in 1921 . . . . .	2
75. Stallions foaled in or before 1919, over 14 hands Extra Stock . . . . .	1
	— 8

## PONIES.

76. Stallions, three years old and upwards, 14 hands and under, in hand .	2
77. Yeld mare, filly, or geldings, three years old and upwards, over 13 and not over 14 hands, in saddle . . . . .	1
78. Yeld mare, filly, or gelding, three years old and upwards, not over 13 hands, in saddle . . . . .	1
	— 4

## HIGHLAND PONIES.

79. Stallions, three years old or upwards, not exceeding 14·2 hands Extra Stock . . . . .	...
80. Mares, three years old or upwards, not exceeding 14·2 hands, yeld or with foal at foot . . . . .	8
81. Entire colts, foaled after 1st January 1920 . . . . .	3
82. Fillies foaled after 1st January 1920 . . . . .	6
	— 18

## WESTERN ISLAND PONIES.

83. Stallions, three years old or upwards, not exceeding 14·2 hands .	3
84. Mares, three years old or upwards, not exceeding 14·2 hands, yeld or with foal at foot . . . . .	3
85. Entire colts, foaled after 1st January 1920 . . . . .	2
86. Fillies, foaled after 1st January 1920 . . . . .	4
	— 12

## SHETLAND PONIES.

87. Stallions, not exceeding 10½ hands, foaled before 1919 . . . . .	6
Extra Stock . . . . .	1
88. Entire colts, not exceeding 10½ hands, foaled in 1919 or 1920 . . . . .	5
89. Mares, not exceeding 10½ hands, with foal at foot . . . . .	:
90. Yeld mares, not exceeding 10½ hands . . . . .	11
91. Fillies, not exceeding 10½ hands, foaled in 1919 or 1920 . . . . .	9
	— 37

## HORSES IN HARNESS.

92. Yeld mare, filly, or gelding, any age, in harness, 15 hands and upwards, to be driven in the ring . . . . .	5
93. Yeld mare, filly, or gelding, any age, in harness, under 15 hands, to be driven in the ring (5) . . . . .	4
	— 9
	<u>272</u>

## JUMPING.

1. Horses or ponies, any height . . . . .	13
2. Horses or ponies, any height—handicap . . . . .	14
3. Horses or ponies, any height—handicap . . . . .	13
4. Horses or ponies, any height . . . . .	13
	— 53

## 3. SHEEP.

## BLACKFACE.

94. Tups above one shear . . . . .	13
95. Shearling tups . . . . .	22
96. Shearling tups, which shall have been entirely out-wintered, and which shall not have been clipped before 1st May 1922 . . . . .	20
97. Ewes above one shear, with lamb at foot . . . . .	7
98. Shearling ewes or gimmers . . . . .	6
99. Ewes and Lambs, unclipped, taken off the hill not earlier than 1st June, and not hand-fed or kept enclosed on low ground before that date . . . . .	6
100. Tup Lambs bred by Exhibitor . . . . .	9
	— 83

## CHEVIOT.

101. Tups above one shear . . . . .	14
102. Shearling tups . . . . .	20
103. Ewes above one shear, with lamb at foot . . . . .	10
104. Shearling ewes or gimmers . . . . .	16
	— 60

## BORDER LEICESTER.

105. Tups above one shear . . . . .	10
106. Shearling tups . . . . .	38
107. Ewes above one shear . . . . .	11
108. Shearling ewes or gimmers . . . . .	26
	— 85

## HALF-BRED.

109. Tups above one shear . . . . .	2
110. Shearling tups . . . . .	8
111. Ewes above one shear . . . . .	4
112. Shearling ewes or gimmers . . . . .	5
113. Three ewe lambs . . . . .	6
	— 25

## OXFORD DOWN.

114. Shearling tups . . . . .	13
115. Shearling ewes or gimmers . . . . .	13
116. Tup lambs . . . . .	11
117. Three ewe lambs . . . . .	5
	— 42

## SUFFOLK.

118. Shearling tups . . . . .	4
119. Shearling ewes or gimmers . . . . .	11
120. Tup lambs . . . . .	11
121. Three ewe lambs . . . . .	8
	— 34

## SHROPSHIRE.

122. Shearling tups . . . . .	3
123. Shearling ewes or gimmers . . . . .	3
	— 6

## FAT SHEEP.

124. Three fat lambs, any breed or cross . . . . .	4
	— 4

---

 339

## 4. GOATS.

## OPEN CLASSES.

125. Male goats, any variety, over one year . . . . .	1
126. Female goats, any variety, over two years . . . . .	16
127. Goatlings, any variety, over one and not exceeding two years . . . . .	10
128. Male kids, any variety, not exceeding one year . . . . .	3
129. Female kids, any variety, not exceeding one year . . . . .	7
130. Milking competition, open to Classes 126 and 132 (animals two years and over) (15) . . . . .	1
	— 38

## CONFINED TO SCOTTISH EXHIBITORS.

131. Male goat, one year old and over, any variety . . . . .	1
132. Female goats, in milk, any age . . . . .	2
	— 3
	<hr/> 41

## 5. PIGS.

## LARGE WHITE.

133. Boars farrowed before 1921	.	.	.	.	.	.	8
134. Boars farrowed in 1921	.	.	.	.	.	.	7
135. Boars farrowed in 1922	.	.	.	.	.	.	9
136. Sows farrowed before 1921	.	.	.	.	.	.	10
137. Sows farrowed in 1921	.	.	.	.	.	.	11
138. Sows farrowed in 1922	.	.	.	.	.	.	6
							— 51

## MIDDLE WHITE.

139. Boars, any age	.	.	.	.	.	.	8
140. Boars farrowed in 1922	.	.	.	.	.	.	9
141. Sows, any age	.	.	.	.	.	.	12
142. Sows farrowed in 1922	.	.	.	.	.	.	9
							— 38

## BERKSHIRE.

143. Boars, any age	.	.	.	.	.	.	...
144. Boar farrowed in 1922	.	.	.	.	.	.	1
145. Sows, any age	.	.	.	.	.	.	5
146. Sow farrowed in 1922	.	.	.	.	.	.	1
							— 7

## LARGE BLACK.

147. Boars, any age	.	.	.	.	.	.	7
148. Boars farrowed in 1921	.	.	.	.	.	.	14
149. Boars farrowed in 1922	.	.	.	.	.	.	12
150. Sows, any age	.	.	.	.	.	.	15
Extra stock	.	.	.	.	.	.	1
151. Sows farrowed in 1921	.	.	.	.	.	.	19
152. Sows farrowed in 1922	.	.	.	.	.	.	9
							— 77

## GLOUCESTERSHIRE OLD SPOTS.

153. Boars, any age	.	.	.	.	.	.	4
154. Boars farrowed in 1922	.	.	.	.	.	.	6
155. Sows, any age	.	.	.	.	.	.	5
156. Sows farrowed in 1922	.	.	.	.	.	.	8
							— 23

## CUMBERLAND.

157. Boars, any age	.	.	.	.	.	.	5
158. Boars farrowed in 1922	.	.	.	.	.	.	6
159. Sows, any age	.	.	.	.	.	.	13
160. Sows farrowed in 1922	.	.	.	.	.	.	9
							— 33

229

## 6. POULTRY.

1-109. Poultry.	.	.	.	.	.	.	588
-----------------	---	---	---	---	---	---	-----

## 7. DAIRY PRODUCE.

1. Powdered butter, not less than 3 lb.	.	.	.	.	.	.	15
2. Fresh butter, three 1-lb. rolls	.	.	.	.	.	.	14
3. Cheddar cheese, 56 lb. and upwards	.	.	.	.	.	.	51
4. Sweet-milk cheese, flat shape, white in colour, made according to the Dunlop or other method	.	.	.	.	.	.	8
5. Cheese, 14 lb. and under	.	.	.	.	.	.	34
							— 122

## 8. BEE APPLIANCES AND HONEY, &amp;c.

## OPEN CLASSES—APPLIANCES.

1. Collection of hives and appliances	2
2. Best and most complete standard frame hive for general use, unpainted	2
3. Best and most complete standard frame hive for cottager's use, unpainted	2
4. Any new appliance connected with Bee-keeping to which no prize has been awarded at any previous Highland Show	2
	— 8

## HONEY, &amp;c.

5. Six sections of comb honey	12
6. Six jars of run or extracted light-coloured honey, approximate weight 6 lb.	14
7. Six jars of run or extracted medium or dark-coloured honey, excluding heather, approximate weight 6 lb.	8
8. Six jars of pressed heather honey in liquid form, approximate weight 6 lb.	5
9. Six jars of granulated honey, approximate weight 6 lb.	8
10. One shallow frame of comb honey for extracting purposes	6
11. Products made with the aid of honey	3
12. Best display of honey in any form staged in space 3 feet by 3 feet, height from table not exceeding 4 feet, weight of honey not to exceed 100 lb.	2
13. Best exhibit of not less than 1 lb. of wax in any form	7
14. Best exhibit of not less than 1 lb. of wax made into shape for retail trade and over-counter trade	5
15. Observatory hive with queen and bees	4
16. Exhibit of a scientific nature to which no prize has been awarded at any previous Highland Show	3
	— 77

## CONFINED TO SCOTTISH EXHIBITORS.

17. Six sections of comb honey	17
18. Six jars of run or extracted medium or dark-coloured honey, approximate weight 6 lb.	10
19. Six jars of run or extracted light-coloured honey, approximate weight 6 lb.	14
	— 41
	<u>128</u>

## 9. WOOL.

## PURE BREED CLASSES.

1. Blackface ewe	13
2. Blackface wedder	6
3. Blackface hogg	16
4. Cheviot ewe	9
5. Cheviot hogg	8
6. Border Leicester ewe	4
7. Border Leicester hogg	4
8. Half-bred ewe	5
9. Half-bred hogg	4
10. Shetland ewe	8
11. Shetland hogg	5
	— 82

## ABSTRACT.

	No. of Entries.
1. Cattle	422
2. Horses	272
3. Sheep	339
4. Goats	41
5. Pigs	229
6. Poultry	588
7. Dairy produce	122
8. Bee Appliances and Honey, &c.	126
9. Wool	82
10. Rural Industries	434
11. Horse-Shoeing	61
	<u>2716</u>

The following table gives a comparative view of the entries of cattle, horses, sheep, pigs, poultry, dairy produce, bee appliances and honey, &c., wool and implements, of the value of the premiums offered, and of the receipts at the entrance-gates, grand stands, and for catalogues at the Shows which have been held in the Dumfries Show District :—

Year.	Cattle.	Horses.	Sheep.	Goats.	Pigs.	Poultry.	Dairy Produce.	Bee Appliances, &c.	Wool.	Implements.	Premiums.	Drawings at Show.
1830 .	186	62	57	...	19	...	...	...	...	18	£353	£163
1837 .	181	77	118	...	14	...	31	...	...	36	650	382
1845 .	297	75	126	...	36	48	88	...	...	143	900	440
1860 .	298	166	279	...	42	72	195	...	...	911	1500	1,275
1870 .	374	171	322	...	39	134	130	...	...	1873	1600	1,897
1878 .	357	328	308	...	27	227	235	...	...	2578	2763	3,308
1886 .	287	312	282	...	22	144	146	...	...	1639	2583	2,314
1895 .	269	333	226	...	...	245	114	...	...	2265	2456	2,599
1903 .	279	282	273	...	31	419	128	...	33	1834	3073	2,919
1910 .	270	355	295	...	54	481	110	...	...	1950	3057	3,411
1922 .	422	272	339	41	229	588	122	126	82	2156	5488	11,452

#### A COMPARISON.

The following figures relating to some of the most successful Shows the Society has held will be perused with interest :—

	Cattle.	Horses.	Sheep.	Pigs.	Poultry.	Total Live Stock.	Implements.	Premiums.	Drawings at Show.	Profit.
Glasgow, 1867 .	286	212	257	58	150	963	1344	£1600	£3,005	£1307
Edinburgh, 1869	310	212	340	22	239	1123	1900	1600	4,078	2067
Glasgow, 1875 .	411	405	296	48	479	1639	2220	2665	6,231	3316
Edinburgh, 1877	339	342	305	30	234	1250	2292	2714	6,734	3710
Edinburgh, 1884	580	453	493	35	253	1814	2282	4343	6,548	1855
Edinburgh, 1893	380	349	294	31	360	1414	2268	2600	4,918	2323
Aberdeen, 1894 .	314	324	184	34	365	1221	2532	2440	5,121	1678
Perth, 1896 .	292	258	204	20	374	1148	1945	2205	4,788	2511
Glasgow, 1897 .	317	350	245	30	275	1217	2227	2897	4,392	2021
Edinburgh, 1899	386	518	477	46	551	1978	2585	3844	10,285	3911
Stirling, 1900 .	321	288	369	28	457	1463	2095	2915	4,305	1078
Inverness, 1901.	360	257	204	22	499	1340	1460	2806	2,485	99
Aberdeen, 1902.	330	253	243	42	475	1343	1988	2796	4,413	1604
Perth, 1904 .	348	315	283	35	413	1394	1972	3058	4,993	1828
Glasgow, 1905 .	310	462	284	60	534	1750	1875	3702	4,473	1203
Peebles, 1906 .	253	258	291	40	438	1280	1658	3072	2,596	416
Edinburgh, 1907	363	464	352	58	605	1842	2140	3614	7,061	2309
Aberdeen, 1908 .	331	299	237	42	509	1418	1931	3045	4,596	1881
Stirling, 1909 .	330	355	249	54	539	1527	1977	3017	4,638	1100
Dumfries, 1910 .	270	355	295	54	481	1455	1950	3057	3,411	562
Paisley, 1913 .	408	472	334	48	536	1798	1968	5109	6,468	2527
Edinburgh, 1919	215	301	221	43	398	1238	1605	4517	17,377	3275
Aberdeen, 1920 .	340	250	279	112	597	1597	2065	4608	14,120	1679
Stirling, 1921 .	367	270	299	188	582	1774	2201	5055	12,822	2350

## CATTLE.

There were 422 entries in the cattle section, a figure which has not been equalled since the great Centenary Show at Edinburgh in 1884. The increase was, of course, partly accounted for by the inclusion, for the first time, of classes for Red Polls and Belted Galloways.

Shorthorns were not so numerous as last year, there being 72 compared with 94 at Stirling, but a number of animals of exceptional merit were shown. The President's Medal for the best Shorthorn was won, for the third year in succession, by Mr Albert James Marshall, Bridgebank, Stranraer. The winning animal was "Bridgebank Paymaster," 154,308 (Fig. 92). This is a massive evenly-fleshed roan bull, three years old, and got by "Gainford Ringleader," 136,657, out of "Princess Christina." He was bred by exhibitor, and has thus secured championship honours at both the Royal and Highland Shows for two years in succession. In addition to the President's Medal, he was awarded the Shorthorn Society's Special Prize of £20 for the best bull. The runner-up for championship honours, and the winner of the Shorthorn Society's Special Prize of £20 for females, was "Mischief," a beautiful white three-year-old cow, bred and exhibited by Mr J. H. Toppin, Musgrave Hall, Skelton, Penrith. This animal was also awarded the Duthie Perpetual Challenge Cup, for which "Bridgebank Paymaster" was not eligible, having been awarded it last year.

As was to be expected, so far from the home of the breed, the entry of Aberdeen-Angus cattle was not large, the number being 49, which was ten less than the previous year. There was, however, no deficiency in quality. The President's Champion Medal was secured, for the second year in succession, by Mr W. Gilchrist Macbeth, Dunira, Comrie, with "Buxom Maid of Connage," 65,203 (Fig. 93), a three-year-old cow of exceptional quality, bred by Mr F. G. M'Conachie, Connage, Buckie, and got by "Elation of Inchgower," 41,263, out of "Beaming Maid of Connage," 60,659. This animal was also awarded the Ballindalloch Challenge Cup for the best cow, and the Aberdeen-Angus Cattle Society's Champion Gold Medal for the best animal in the breeding classes. The Ballindalloch Challenge Cup for the best bull was again secured by Mr H. L. C. Brassey, M.P., Apethorpe Hall, Peterborough, for his three-year-old bull, "Black Knight of Auchterarder," 45,102.

Galloways, as was to be expected at Dumfries, made a specially strong display with 74 entries, the largest number catalogued for many years. The quality in most classes was very good. The President's Champion Medal, the Fife and Kinross Perpetual Gold Challenge Cup, and the Dr Gillespie

Memorial Challenge Trophy were all won by Mr John Cunningham, Tarbreoch, Dalbeattie, with his three-year-old cow "Tarbreoch Blue Bell 3rd," 26,883 (Fig. 94). This is a cow of first-rate breed character, bred by exhibitor, and got by "Sapphire," 12,268, out of "Tarbreoch Blue Bell," 22,589.

Highland cattle were represented by 23 entries, the number of these at Dumfries being invariably small. The President's Champion Medal was awarded to the Duke of Atholl, K.T., Blair Castle, Blair-Atholl, for his home-bred three-year-old bull, "Ossian Ban of Atholl" (Fig. 95), got by "Righ Calum na Morairne," 2817, out of "Bean Bhuidhe XI. of Atholl," 8776. This animal also won the Highland Cattle Society's Perpetual Victory Challenge Cup for the best bull, the corresponding cup for females being won by Mr D. A. Stewart of Lochdhu, Nairn, with his seven-year-old cow "Laochag."

There were 110 entries in the Ayrshire section, this providing one of the largest and finest exhibitions of Ayrshire cattle ever seen at the Annual Show. The winner of the President's Champion Medal, the Cowhill Champion Cup, and the Ayrshire Cattle Herd-Book Society's Special Prize of £10 for the best female, was found in "Aitkenbrae Ella 3rd," 47,263 (Fig. 96). This handsome eight-year-old cow was bred by, and is the property of, Mr Thomas C. Lindsay, Aitkenbrae, Monkton. She was got by "Aitkenbrae Major," 12,137, out of "Aitkenbrae Ella 2nd," 31,136. The Ayrshire Cattle Herd-Book Society's Special Prize of £10 for the best bull was won by Mr Thomas Logan, Low Milton, Maybole, with his four-year-old bull, "Bargenoch Right at Last," 17,295.

The entry of British Friesian cattle was disappointingly small, this being probably accounted for, to some extent, by the prevalence of foot-and-mouth disease in England at the time of entry. The winner of the President's Champion Medal was the two-year-old heifer, "Royal Akke," 48,580 (Fig. 97), got by "Clockhouse Rinlod," 7513, out of "Garton (Imp.) Akke 6th," 17,794, the property of Mr Andrew Macaulay, Lathalmond Farm, Dunfermline, and bred by Mr John Houston, Langside, Port Glasgow.

Red Poll cattle, which were included for the first time, secured a gratifying entry of 32 animals. The exhibits, on the whole, were highly creditable. The President's Champion Medal was won by Mr J. G. Dugdale, The Abbey, Cirencester, with his noted four-year-old bull, "Necton Gloucester," 11,423 (Fig. 98), which was bred by Mr R. Harvey Mason, Necton Hall, Swaffham, his sire being "Shrewsbury," 10,489, and dam "Godiva," 22,573.

Belted Galloways, the other new section included for the first time, secured an entry of 28, which may be regarded as quite good for a first occasion. The President's Champion Medal and the Knockbrex Challenge Cup were awarded to



Mr James Jardine Bell-Irving of Makerstoun, Kelso, for his five-year-old bull, "Makerstoun Dan Dun," 52 (B) (D) (Fig. 99), bred by Miss Montgomery, Nether Hall, Castle Douglas.

Instead of classes for Fat Cattle, two classes were provided for Blue Grey Cattle, these to be the produce of a Shorthorn bull and Galloway cow, or Galloway bull and Shorthorn cow. Eight entries were secured, and the President's Champion Medal was awarded to Mr Christopher Jeffrey, Kirtleton, Waterbeck, Lockerbie, for his two-year-old Blue Grey steer, "Kirtleton Bovril," bred by Robert Blaylock, Chapelton, Longtown (Fig. 100).

### HORSES.

Although the numbers in the Clydesdale section were again smaller than in the preceding year, the classes contained some of the finest animals of the breed. In an excellent display of stallions and colts the President's Champion Medal went to Mr James Kilpatrick, Craigie Mains, Kilmarnock, for his seven-year-old stallion, "Craigie Litigant," 19,071 (Fig. 101). He was bred by Mr James Anderson, Pitcarry, Bervie, and got by "Baron of Buchlyvie," 11,263, out of "Favourite Queen," 32,062.

The three classes for Draught Geldings were fairly well filled. The President's Champion Medal for the best gelding went to the Scottish Co-operative Wholesale Society, Ltd., for the four-year-old brown gelding "Jim Scott" (Fig. 102), bred by Mr James Scott, Estuary, Forfar, and got by "Carbrook Buchlyvie."

There was a strong display in the classes for Clydesdale Mares and Fillies, especially in the younger classes. The President's Champion Medal, the Renfrewshire Perpetual Gold Challenge Cup, and the Cawdor Challenge Cup were awarded to Mr John P. Sleight of St John's Wells, Fyvie, for his three-year-old filly, "Wells Mescal" (Fig. 103), bred by Mr William Dunlop, Dunure Mains, Ayr. This handsome filly was got by "Auchenflower," 12,007, out of "Dunure Hagar," 45,089.

Although the entries in the Hunter classes were less numerous than the previous year, there was no falling off in quality. The President's Champion Medal was awarded to Mr E. W. Hope-Johnstone, Rachills, Lockerbie, for "Babe in the Woods" (Fig. 104), a handsome gelding and noted prizewinner, bred by Mr M. Smith, Curraghtoun, Navan, Ireland, and got by "Bellerophon" out of "Child of Woods."

Entries in the Hackney and Pony classes were small in numbers. Mr Enoch Glen, Kaim Park, Bathgate, secured the President's Champion Medal and the Hackney Horse

Society's Champion Prize for best hackney, with his very fine eight-year-old brood mare, "Creake Lady," 23,912 (Fig. 105), bred by the late Mr H. V. Sheringham, South Creake, Fakenham, Norfolk, and got by "Antonius," 10,559, out of "Creake Connie," 18,130. The President's Champion Medal for the best pony went to Mr C. F. Kenyon, Ewloe Hall Stud, Buckley, near Chester, for his stylish four-year-old stallion, "Bricket Fusilier," 13,509 (Fig. 106), bred by the late Mr W. W. Bourne, Garston Manor, Watford, Herts., and got by "Fusee," 12,626, out of "Colne Marvel," 23,909.

There was a fair entry of Highland Ponies. The Marquis of Graham, C.B., Brodick Castle, Isle of Arran, won the President's Champion Medal with his noted eight-year-old grey stallion "Glenbernsdale," 891 (Fig. 107), bred by Mr Kenneth McDonald, Skeabost, Portree, and sired by "Glenbruar" out of "Maggie." This animal also won the Special Prize of £10, given by the National Pony Society.

There was a good show of Western Island Ponies. The winner of the President's Champion Medal was the beautiful nine-year-old black stallion, "Glenscorrodale," 838 (Fig. 108), the property of Mr Donald Mackelvie, New Lanark, Lamlash, bred by Mr Donald M'Corquodale, Knockintorran, North Uist, and got by "Heather" 252, out of "Kate."

Shetland Ponies numbered 37, a slight increase over last year. They gave a very attractive display. The President's Champion Medal was awarded to Mrs Etta Duffus, Penniwells, Elstree, Herts., for "Maydew of Penniwells," 33,417 (Fig. 109), a handsome black ten-year-old mare, bred by Exhibitor, and got by "Dragon of Earlsall," 595, out of "Mayfly of Penniwells," 2582.

The two classes for Hackneys in Harness secured only a small entry. The President's Champion Medal went to Mr William S. Miller, Balmanno Castle, Bridge of Earn, for his stylish five-year-old chestnut gelding "Gondolier" (Fig. 110), bred by the late Mr John Mackeague, Golden Park, Newton-le-Willows, and got by "King's Proctor," 11,102, out of "Pious Bonds," 16,103.

As usual, the Jumping Competitions were a source of attraction.

#### SHEEP, PIGS, &C.

In the Sheep section, the classes were mostly well filled, and the total of 339 entries was the largest in the history of the Society. The Pig classes were also well filled, exceeding last year's total by 41 entries. There was a fair number of Goats, and these were of good quality. The winner of the President's Champion Medals are shown in Figs. 111-124.

There were also the usual sections for Poultry, Dairy

Produce, Bee Appliances and Honey, and Wool, each of which provided a very interesting display.

A novel feature, seen for the first time at the annual shows of the Society, was the section provided for Rural Industries. This new departure was a distinct success. The 20 Classes were well filled, reaching a gratifying total of 434 entries. Altogether, this section gave a most instructive display, and attracted much interest.

A Horse-Shoeing Competition was held on this occasion, the last competition having been held in 1913. There was a large entry, and the work done reached a high standard of efficiency.



Fig. 92.—SHORTHORN BULL, "BRIDGEBANK PAYMASTER" 154,308.

Winner of President's Medal for best Shorthorn, Dumfries Show, 1922. Bred by and the property of Mr Albert James Marshall, Bridgebank, Strauraer. Age three years and five months.



Fig. 93.—ABERDEEN-ANGUS COW, "BUXOM MAID OF CONNAGE" 65,203.

Winner of President's Medal for best Aberdeen-Angus animal, Dumfries Show, 1922. The property of Mr W. Gilchrist Macbeth, Dunira, Comrie. Bred by Mr F. G. McConachie, Connage, Buckie. Age three years and four months.

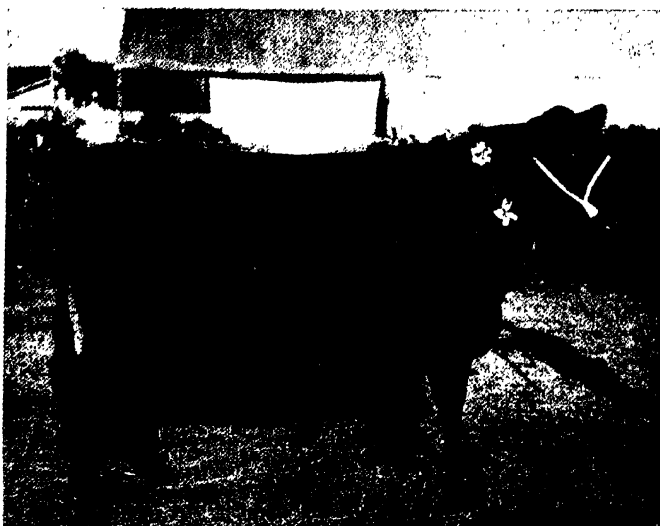


Fig. 94.—GALLOWAY COW, "TARBREOCH BLUE BELL 3RD" 26,883.

Winner of President's Medal for best Galloway, Dumfries Show, 1922. Bred by and the property of Mr John Cunningham, Tarbreoch, Dalbeattie. Age three years and one month.



Fig. 95.—HIGHLAND BULL, "OSSIAN DAN OF ATHOLL."

Winner of President's Medal for best Highland animal, Dumfries Show, 1922. Bred by and the property of The Duke of Atholl, K.T., Blair Castle, Blair Atholl. Age three years and five months.



Fig. 96.—AYRSHIRE COW, "AITKENBRAE ELLA 3RD" 47,263.

Winner of President's Medal for best Ayrshire, Dumfries Show, 1922. Bred by and the property of Mr Thomas C. Lindsay, Aitkenbrae, Monkton. Age eight years and three months.



Fig. 97.—BRITISH FRIESIAN HEIFER, "ROYAL AKKE" 48,580.

Winner of President's Medal for best British Friesian animal, Dumfries Show, 1922. The property of Mr Andrew Macaulay, Lathalmond Farm, Dunfermline. Bred by Mr John Houston, Langside, Port-Glasgow. Age two years and three months.

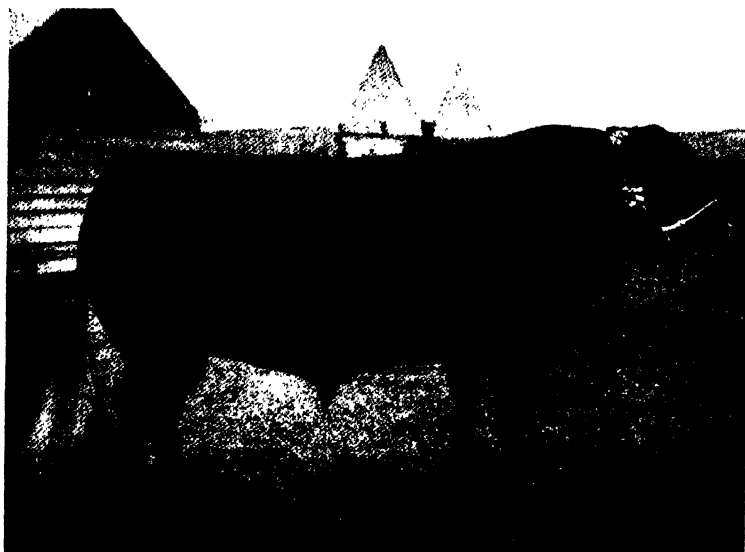


Fig. 98.—RED POLL BULL, "NECTON GLOUCESTER" 11,423.

Winner of President's Medal for best Red Poll, Dumfries Show, 1922. The property of Mr J. G. Dugdale, The Abbey, Cirencester. Bred by Mr R. Harvey Mason, Necton Hall, Swaffham. Age four years and five months.

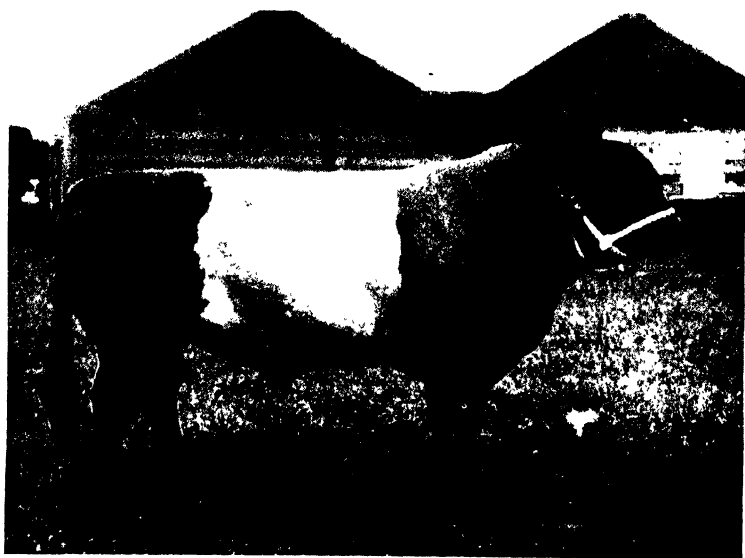


Fig. 99.—BELTED GALLOWAY BULL, "MAKERSTOUN DAN DUN" 52 (1) (D).

Winner of President's Medal for best Belted Galloway animal, Dumfries Show, 1922. The property of Mr James Jardine Bell-Irving of Makerstoun, Kelso. Bred by Miss Montgomery, Nether Hall, Castle-Douglas. Age five years and six months.



Fig. 100.--BLUE GREY STEER, "KIRTLETON BOVRIL."

Winner of President's Medal for best Blue Grey animal, Dumfries Show, 1922. The property of Mr Christopher Jeffrey, Kirtleton, Waterbeck, Lockerbie. Bred by Mr Robert Blaylock, Chapelton, Longtown. Age two years and six months.



Fig. 101.—CLYDESDALE STALLION, "CRAIGIE LITIGANT" 19,071.

Winner of President's Medal for best Clydesdale Stallion or Colt, Dumfries Show, 1922. The property of Mr James Kilpatrick, Craigie Mains, Kilmarnock. Bred by Mr James Anderson, Pitcarry, Bervie. Age seven years and two months.



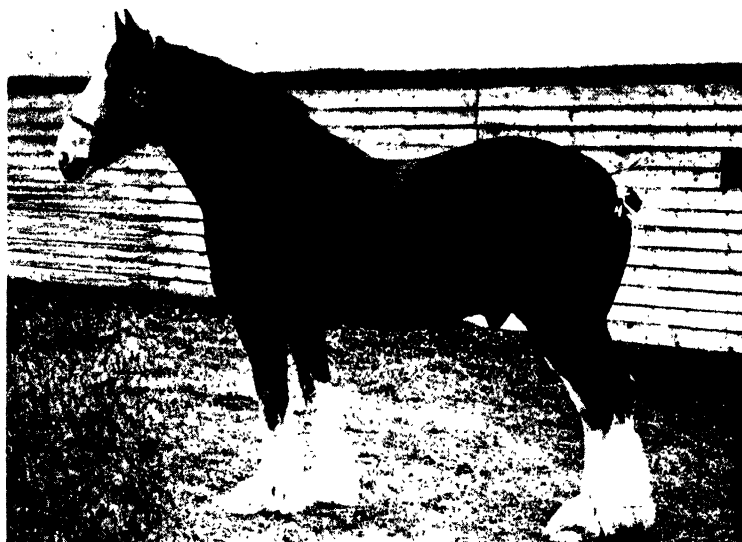


Fig. 102.—DRAUGHT GELDING, "JIM SCOTT."

Winner of President's Medal for best Draught Gelding, Dumfries Show, 1922. The property of the Scottish Co-operative Wholesale Society, Limited, Glasgow. Bred by Mr James Scott, Estuary, Forfar. Age four years.



Fig. 103.—CLYDESDALE FILLY, "WELLS MESCAL."

Winner of President's Medal for best Clydesdale Mare or Filly, Dumfries Show, 1922. The property of Mr John P. Sleigh of St John's Wells, Fyvie. Bred by Mr William Dunlop, Dunure Mains, Ayr. Age three years and two months.



Fig. 104.—HUNTER GELDING, "BABE IN THE WOODS."

Winner of President's Medal for best Hunter, Dumfries Show, 1922. The property of Mr E. W. Hope-Johnstone, Rachills, Lockerbie. Bred by Mr M. Smith, Curraghtoun, Navan, Ireland. Aged.



Fig. 105.—HACKNEY BROOD MARE, "CREAKE LADY" 23,912.

Winner of President's Medal for best Hackney, Dumfries Show, 1922. The property of Mr Enoch Glen, Kaim Park, Bathgate. Bred by the late H. V. Sheringham, South Creake, Fakenham, Norfolk. Age eight years.

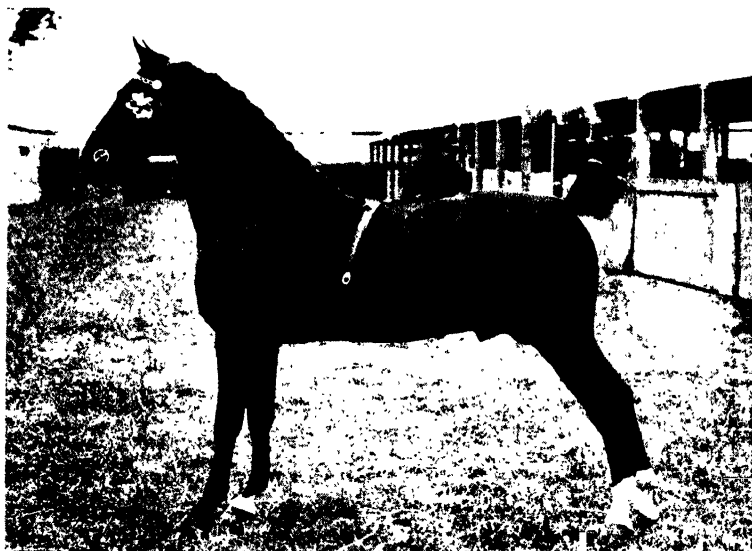


Fig. 106.—PONY STALLION, "BRICKET FUSILIER" 13,509.

Winner of President's Medal for best Pony, Dumfries Show, 1922. The property of Mr C. F. Kenyon, Ewloe Hall Stud, Buckley, near Chester. Bred by the late W. W. Bourne, Garston Manor, Watford, Herts. Age four years.



Fig. 107.—HIGHLAND PONY STALLION, "GLENBERNSDALE" 891.

Winner of President's Medal for best Highland Pony, Dumfries Show, 1922. The property of The Marquis of Graham, C.B., Brodick Castle, Isle of Arran. Bred by Mr Kenneth M'Donald, Skeabost, Portree. Age eight years and one month.



Fig. 108.—WESTERN ISLAND PONY STALLION, "GLEN-CORRODATE" 838.

Winner of President's Medal for best Western Island Pony, Dumfries Show, 1922. The property of Mr Donald Mackelvie, New Lanark, Lamlash. Bred by Mr Donald McCorquodale, Knockintorran, North Uist. Age nine years and one month.



Fig. 109.—SHETLAND PONY MARE, "MAYDEU OF PENNIWELLS" 3347.

Winner of President's Medal for best Shetland Pony, Dumfries Show, 1922. Bred by and the property of Mrs Etta Duffus, Penniwells, Elstree, Herts. Age ten years and two months.



Fig. 110.—GELDING IN HARNESS, "GONDOLIER."

Winner of President's Medal for best animal in the Classes in Harness, Dumfries Show, 1922. The property of Mr. William S. Miller, Balmanno Castle, Bridge of Earn. Bred by the late John MacKeague, Golden Park, Newton-le-Willows. Age five years.



Fig. 111.—BLACKFACE TUP.

Winner of President's Medal for best Blackface, Dumfries Show, 1922. Bred by and the property of Mr Charles Cadzow, Weston, Dunsyre. Age two shear.

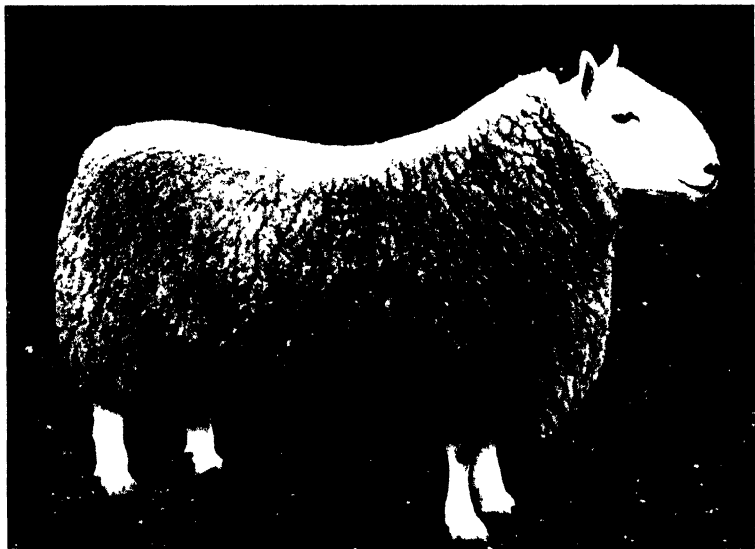


Fig. 112.—CHEVIOT TUP, "MILLKNOWE VICTORY" 3189.

Winner of President's Medal for best Cheviot, Dumfries Show, 1922. The property of Mr William Hogg, Newlands, Gifford, and Mr John Robson, jun., Lynegar, Watten, Cathness. Bred by Mr John Robson, Millknowe, Duns. Age four shear.

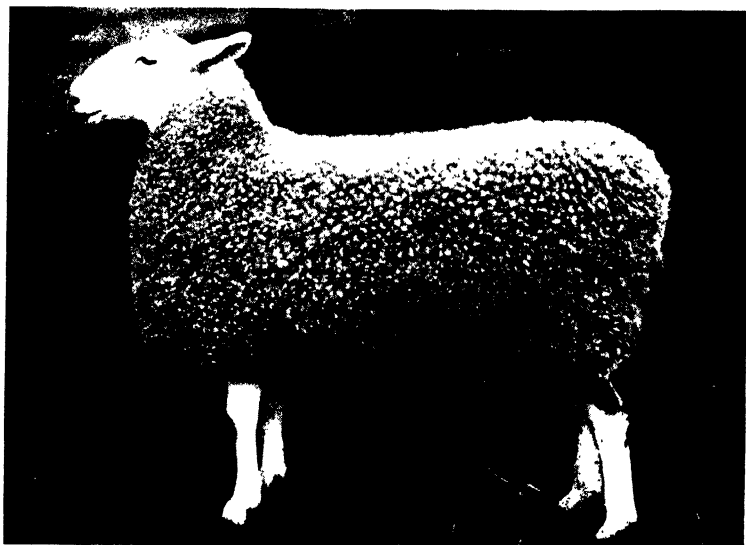


Fig. 113.—BORDER LEICESTER SHEARLING EWE (125).

Winner of President's Medal for best Border Leicester, Dumfries Show, 1922. Bred by and the property of Mr Alexander Niven, Ayton, Newburgh-on-Tay.

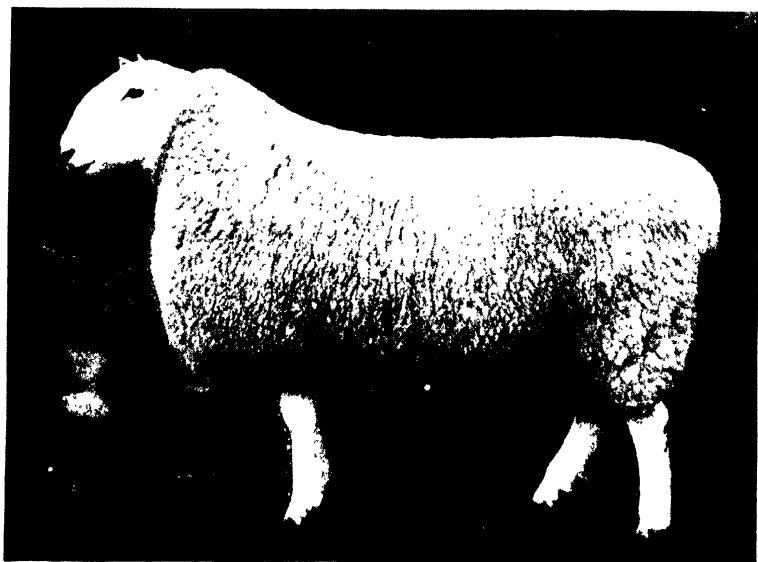


Fig. 114.—HALF-BRED SHEARLING TUP.

Winner of President's Medal for best Half-bred, Dumfries Show, 1922. Bred by and the property of Mr William Hogg, Newlands, Gifford.



Fig. 115.—OXFORD-DOWN SHEARLING TUP.

Winner of President's Medal for best Oxford-Down, Dumfries Show, 1922. Bred by and the property of Messrs Thomas & Matthew Templeton, Sandyknowe, Kelso.



Fig. 116.—SUFFOLK TUP LAMB.

Winner of President's Medal for best Suffolk, Dumfries Show, 1922. Bred by and the property of Mr G. Bertram Shields, Dolphingstone, Tranent, East Lothian.



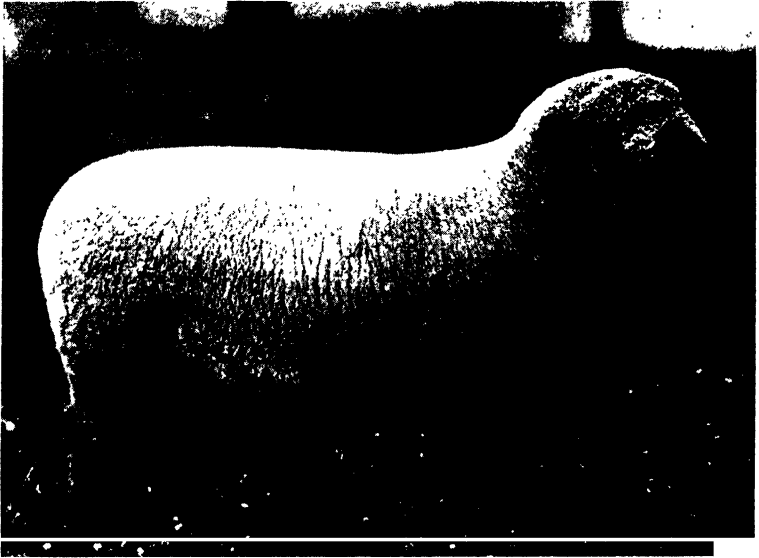


Fig 117.—SHROPSHIRE SHEARLING TUP.

Winner of President's Medal for best Shropshire, Dumfries Show, 1922. Bred by and property of Mr Thomas A. Buttar, Corston, Coupar-Angus.



Fig. 118.—ANGLO-NUBIAN-SWISS MALE GOAT, "† DOCHFUR ONYX" 4665.

Winner of President's Medal for best animal in the Goat Classes, Dumfries Show, 1922. Bred by and the property of The Baroness Burton, Dochfour, Inverness. Age one year and four months.



Fig. 119.—LARGE WHITE SOW, "DALMENY MEG" 58,844.

Winner of President's Medal for best Large White Pig, Dumfries Show, 1922. Bred by and the property of the Earl of Rosebery, K.G., K.T., Dalmeny House, Edinburgh. Age three years and six months.



Fig. 120.—MIDDLE WHITE SOW, "HISTON LADY HOLLY 4TH."

Winner of President's Medal for best Middle White Pig, Dumfries Show, 1922. Bred by and the property of Mr John Chivers, Estate Office, Histon, Cambridge. Age one year and six months.



Fig. 121.—BERKSHIRE SOW, "MEERBAHN B" 22,389.

Winner of President's Medal for best Berkshire Pig, Dumfries Show, 1922. The property of Mr A. Henderson Bishop, Thornton Hall, Thornton Hall Station. Bred by Mr Arthur Hiscock. Age three years and six months.

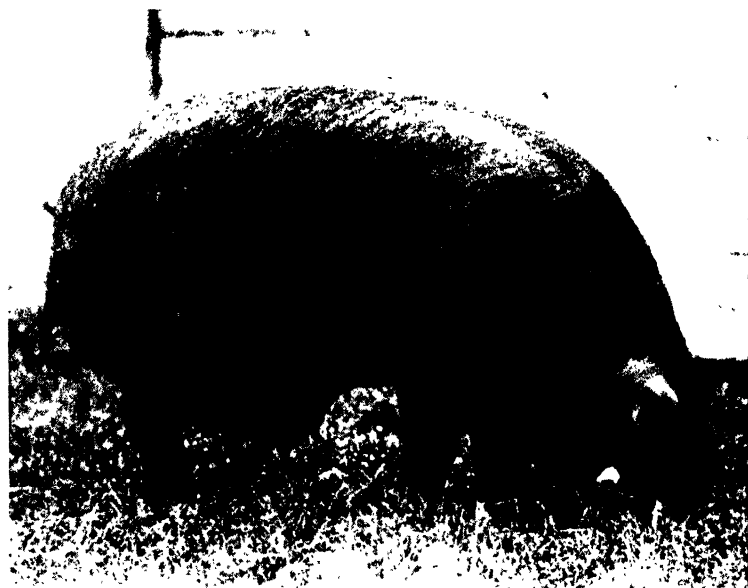


Fig. 122.—LARGE BLACK BOAR, "BYWELL ARCHER" 13,851.

Winner of President's Medal for best Large Black Pig, Dumfries Show, 1922. Bred by and the property of Viscount Allendale, Bywell Hall, Stocksfield-on-Tyne. Age two years and three months.



Fig. 123.—GLOUCESTERSHIRE OLD SPOTS BOAR, "WOODSTOCK EDWIN" 3335.

Winner of President's Medal for best Gloucestershire Old Spots Pig, Dumfries Show, 1922.  
Bred by and the property of Mr John Douglas, 142 Hanham Road, Kingswood, Bristol.  
Age one year and ten months.



Fig. 121.—CUMBERLAND SOW, "CONCERT" 1600.

Winner of President's Medal for best Cumberland Pig, Dumfries Show, 1922. Bred by and the property of Mr John Steel, M.R.C.V.S., Southley, Wigton, Cumberland. Age three years and five months.



# PREMIUMS AWARDED BY THE SOCIETY IN 1922.

## I.—DUMFRIES SHOW

*18th, 19th, 20th, and 21st July 1922.*

ABBREVIATIONS.—V., *Very Highly Commended.* H., *Highly Commended.*  
C., *Commended.*

### CATTLE.

#### SHORTHORN.

*PRESIDENT'S CHAMPION MEDAL for best Shorthorn.*

No. 4 Albert James Marshall, Bridgebank, Stranraer, "Bridgebank Paymaster"  
(154,308).

*Reserve*—No. 43 J. H. Toppin, Musgrave Hall, Skelton, Penrith, "Mischief."

The Duthie Perpetual Challenge Cup, value £150, for best animal in the Shorthorn  
Classes, "*Extra Stock*" being eligible to compete. This Cup was gifted by Mr  
William Duthie, Collynie.

No. 43 J. H. Toppin, Musgrave Hall, Skelton, Penrith, "Mischief."

*Best Shorthorn Bull in the Show, entered or eligible for entry in Coates's Herd-Book—  
£20, given by the Shorthorn Society.*

No. 4 Albert James Marshall, Bridgebank, Stranraer, "Bridgebank Paymaster"  
(154,308).

*Silver Medal to the Breeder of the winner of above Prize*—given by the Shorthorn  
Society.

No. 4 Albert James Marshall, Bridgebank, Stranraer.

*Silver Medal to the Breeder of best Bull of any age in Classes 1, 2, and 3.*

No. 4 Albert James Marshall, Bridgebank, Stranraer.

CLASS 1. BULL, calved before 1920.—Premiums, £15, £10, £5, and £3.

1st No. 4 Albert James Marshall, Bridgebank, Stranraer, "Bridgebank Pay-  
master" (154,308).

2nd No. 3 John MacGillivray of Calrossie, Nigg, Ross-shire, "Doune Monarch"  
(155,890).

3rd No. 5 Ian K. Morison, West Inchmichael, Errol, Perthshire, "Roysterer"  
(159,115).

4th No. 2 General the Lord Lovat, K.T., Beaufort Castle, Beaulieu, "Lothian  
Mario" (137,718).

V No. 1 John Easton, Gumleys, Parkgate, Dumfries, "Lord Matadore"  
(157,381).

**CLASS 2. BULL, calved in 1920.—Premiums, £15, £10, £5, and £3.**

- 1st No. 9 K. P. MacGillivray, Kirkton, Bunchrew, "Millhills Regent" (165,383).  
 2nd No. 13 William S. Niven, Loan of Errol, Errol, Perthshire, "Millhills Augustus" (165,380).  
 3rd No. 12 The Earl of Moray, Doune Lodge, Doune, "Balcairn Guardsman" (160,949).  
 4th No. 6 Joseph Barnes & Son, Barugh Syke, Wigton, Cumberland, "Inschfield Jealous Ploughboy" (164,208).  
 V No. 11 H. B. Marshall of Rachan, Broughton, Peeblesshire, "Saltoun Blithe Stephen" (166,830).

**CLASS 3. BULL, calved on or after 1st January, and not later than 31st March 1921.—Premiums, £12, £8, £4, and £2.**

- 1st No. 20 Albert James Marshall, Bridgebank, Stranraer, "Calrossie White Ensign."  
 2nd No. 14 Alexander & Addie, Newbiggin, Cambus, "Abbeymains Combatant."  
 3rd No. 17 J. Ernest Kerr of Harviestoun, Dollar, "Harviestoun Duke Augustus."  
 4th No. 18 William T. Malcolm, Whittingehame Mains, Prestonkirk, "Collynie Earl Lavender."  
 V No. 21 G. Bertram Shields, Dolphingstone, Tranent, "Pomme D'Or."

**CLASS 4. BULL, calved on or after 1st April 1921.—Premiums, £10, £6, £4, and £2.**

The Emilio R. Casares, jun., "Junior Champion Challenge Cup," value £50, *for best Shorthorn Bull in Class 4, calved on or after 1st April of the year preceding the Show, that has passed the tuberculin test*—given by Mr Emilio R. Casares, jun., London.

- No. 24 Captain A. M. Talbot Fletcher of Saltoun, Saltoun Hall, Pencaitland, "Saltoun Autocrat."

*Reserve*—No. 22 Alexander & Addie, Newbiggin, Cambus, "Naemoor Escort."

- 1st No. 24 Captain A. M. Talbot Fletcher of Saltoun, Saltoun Hall, Pencaitland, "Saltoun Autocrat."  
 2nd No. 22 Alexander & Addie, Newbiggin, Cambus, "Naemoor Escort."  
 3rd No. 31 Mrs D. Stewart, Millhills, Crief, "Dominion."  
 4th No. 27 Albert James Marshall, Bridgebank, Stranraer, "Binghill Premier."  
 V No. 26 Albert James Marshall, Bridgebank, Stranraer, "Balcairn Chief."  
 H No. 23 Joseph Barnes & Son, Barugh Syke, Wigton, "Balmerino White Cockade."

*Best Shorthorn Female in the Show, entered or eligible for entry in Coates's Herd-Book*—£20, given by the Shorthorn Society.

- No. 43 J. H. Toppin, Musgrave Hall, Skelton, Penrith, "Mischief."

*Silver Medal to the Breeder of the winner of above Prize*—given by the Shorthorn Society.

- No. 43 J. H. Toppin, Musgrave Hall, Skelton, Penrith.

**CLASS 5. COW, calved before 1920, in Milk.—Premiums, £12, £8, £4, and £2.**

- 1st No. 43 J. H. Toppin, Musgrave Hall, Skelton, Penrith, "Mischief."  
 2nd No. 41 John J. Moubray of Naemoor, Rumbling Bridge, "Naemoor Clipper 4th."  
 3rd No. 37 Captain A. M. Talbot Fletcher of Saltoun, Saltoun Hall, Pencaitland, "Bellona Girl" (2908).  
 4th No. 34 Joseph Barnes & Son, Barugh Syke, Wigton, "Mystic Queen."  
 V No. 35 James Butters, Masterton, Dunfermline, "Broadhooks Bit."  
 H No. 39 William T. Malcolm, Whittingehame Mains, Prestonkirk, "Clipper Silver."  
 O No. 40 The Earl of Moray, Doune Lodge, Doune, "Doune Rosewood 4th" (5927).

**CLASS 6. HEIFER or COW**, calved in 1920.—Premiums, £10, £5, £3, and £2.

- 1st No. 48 John J. Moubray of Naemoor, Rumbling Bridge, Heifer, "Naemoor Jealousy 7th."  
 2nd No. 47 John Heaton, Low Startforth Hall, Barnard Castle, Heifer, "Thorn Dorothy."  
 3rd No. 44 James Butters, Masterton, Dunfermline, Cow, "Cairncosh Jilt 12th" (13,898).

**CLASS 7. HEIFER**, calved in 1921.—Premiums, £10, £5, £3, and £2.

- 1st No. 63 John Heaton, Low Startforth Hall, Barnard Castle, "Thorn Fragrance Queen."  
 2nd No. 67 The Earl of Moray, Doune Lodge, Doune, "Balcairn Camelia."  
 3rd No. 65 Messrs Jones, Dunmore Park, Larbert, "Fairlawne Nonpareil 6th."  
 4th No. 72 J. H. Toppin, Musgrave Hall, Skelton, Penrith, "Bright Heroine."  
 V No. 70 W. M'Nair Snadden of Coldoch, Blair Drummond, by Stirling, "Sheila."  
 H No. 57 The Earl of Crawford and Balcarres, Balcarres, Colinsburgh, "Lady Henrietta."  
 C No. 68 William S. Niven, Loan of Errol, Errol, Perthshire, "Drummond Jealousy."

### ABERDEEN-ANGUS.

*PRESIDENT'S CHAMPION MEDAL for best Aberdeen-Angus Animal.*

- No. 95 W. Gilchrist Macbeth, Dunira, Comrie, "Buxom Maid of Connage" (65,203).  
*Reserve*—No. 74 H. L. C. Brassey, M.P., Apethorpe Hall, Peterborough, "Black Knight of Auchterarder" (45,102).

Ballindalloch Challenge Cup, value £50, for the best Bull of any age in Classes 8, 9, and 10, given by the late Sir George Macpherson Grant, Bart.

- No. 74 H. L. C. Brassey, M.P., Apethorpe Hall, Peterborough, "Black Knight of Auchterarder" (45,102).

*Silver Medal to the Breeder of the Winner of the Ballindalloch Challenge Cup.*

- No. 74 A. T. Reid, Auchterarder House, Auchterarder.

*Silver Medal to the Breeder of best Bull of any age in Classes 8, 9, and 10.*

- No. 74 A. T. Reid, Auchterarder House, Auchterarder.

*Champion Gold Medal for best animal in the Breeding Classes, Breeding Animals shown as "Extra Stock" being eligible to compete,—given by the Aberdeen-Angus Cattle Society.*

- No. 95 W. Gilchrist Macbeth, Dunira, Comrie, "Buxom Maid of Connage" (65,203).

**CLASS 8. BULL**, calved before 1st December 1919.—  
 Premiums, £15, £10, £5, and £3.

- 1st No. 74 H. L. C. Brassey, M.P., Apethorpe Hall, Peterborough, "Black Knight of Auchterarder" (45,102).  
 2nd No. 80 C. T. Scott, Buckland Manor, Broadway, Worcs., "Etrurian of Buckland" (45,802).  
 3rd No. 78 James Kennedy of Doonholm, Ayr, "Ebelum of Ballindalloch" (43,249).  
 4th No. 77 J. Hamilton Houldsworth, of Dallas, Dallas Home Farm, Dallas, Morayshire, "Etonian of Bleaton" (45,799).  
 V No. 76 Sir George Macpherson Grant, Bart., The Castle, Ballindalloch, Banffshire, "Prince Totmes of Ballindalloch" (46,734).  
 H No. 73 Viscount Allendale, Bywell Hall, Stocksfield-on-Tyne, "Exbert" (45,895).



**CLASS 9. BULL, calved on or after 1st December 1919.—**  
 Premiums, £15, £10, £5, and £3.

- 1st No. 83 Sir John R. Findlay, K.B.E., of Aberlour, Aberlour, Banffshire, "Boxer of Ballindalloch" (47,409).  
 2nd No. 85 Walter Wilson, Inchgower, Buckie, "Everill of Morlich" (48,168).  
 3rd No. 82 John M. Allan, Easter Duthil, Carr Bridge, Inverness-shire, "Pundit of Moyness" (49,137).  
 4th No. 84 William John Reid, Fordhouse of Dun, Montrose, "Perdie of Langshott" (48,876).

**CLASS 10. BULL, calved on or after 1st December 1920.—**  
 Premiums, £12, £8, £4, and £2.

- 1st No. 89 A. W. Howison, Lochbank, Blairgowrie, "Rompig Rover" (51,508).  
 2nd No. 88 Sir George Macpherson Grant, Bart., The Castle, Ballindalloch, Banffshire, "Evilorus of Ballindalloch" (50,510).  
 3rd No. 90 James Kennedy of Doonholm, Ayr, "Field Marshal of Doonholm" (50,553).  
 4th No. 86 H. L. C. Brassey, M.P., Apethorpe Hall, Peterborough "El Hakiman" (50,176).  
 V No. 91 Sir John Stewart-Clark, Bart., of Dundas, Dundas Castle, South Queensferry, "Prince Paramount" (51,357).  
 H No. 87 H. L. C. Brassey, M.P., Apethorpe Hall, Peterborough, "El Ferik" (50,173).

Ballindalloch Challenge Cup, value £50, for the best Cow of any age in Class 11—  
 given by the late Sir John Macpherson Grant, Bart.

- No. 95 W. Gilchrist Macbeth, Dunira, Comrie, "Buxom Maid of Connage" (65,203).

*Silver Medal to the Breeder of the Winner of the Ballindalloch Challenge Cup.*

- No. 95 F. G. M'Conachie, Connage, Buckie.

**CLASS 11. COW, of any age, in Milk.—Premiums, £12, £8, £4, and £2.**

- 1st No. 95 W. Gilchrist Macbeth, Dunira, Comrie, "Buxom Maid of Connage" (65,203).  
 2nd No. 97 Andrew Thomson Reid, Auchterarder House, Auchterarder, "Proud Genesta" (63,263).  
 3rd No. 99 Walter Wilson, Inchgower, Buckie, "Bermuda Maid" (66,114).  
 4th No. 92 Viscount Allendale, Bywell Hall, Stocksfield-on-Tyne, "Elasma 2nd of Bywell" (63,882).  
 V No. 96 W. Gilchrist Macbeth, Dunira, Comrie, "Eva 6th of Ballindalloch" (64,737).  
 H No. 98 Mrs Russell-Fergusson, Ardtur, Appin, Argyll, "Dunmore Yust" (57,260).

**CLASS 12. HEIFER, calved on or after 1st December 1919.—**  
 Premiums, £10, £5, £3, and £2.

- 1st No. 105 James Kennedy of Doonholm, Ayr, "Poetica of Doonholm" (67,481).  
 2nd No. 104 Sir George Macpherson Grant, Bart., The Castle, Ballindalloch, Banffshire, "Evelusive of Ballindalloch" (67,167).  
 3rd No. 106 J. Ernest Kerr of Harviestoun, Dollar, "Eruca of Harviestoun" (67,490).  
 4th No. 107 W. Gilchrist Macbeth, Dunira, Comrie, "Bellabloom" (66,937).  
 V No. 100 H. L. C. Brassey, M.P., Apethorpe Hall, Peterborough, "Pride of Georgia" (66,274).

**CLASS 13. HEIFER, calved on or after 1st December 1920.—**  
 Premiums, £10, £5, £3, and £2.

- 1st No. 115 W. Gilchrist Macbeth, Dunira, Comrie, "Kobe" (69,602).  
 2nd No. 112 A. W. Howison, Lochbank, Blairgowrie, "Jewel of Lochbank" (69,741).  
 3rd No. 110 Sir John R. Findlay, K.B.E., of Aberlour, Aberlour, "Eventide of Aberlour" (69,374).  
 4th No. 118 Andrew Thomson Reid, Auchterarder House, Auchterarder, "Black Beryl of Auchterarder" (70,367).  
 V No. 116 W. Gilchrist Macbeth, Dunira, Comrie, "Black Bun" (68,641).  
 H No. 114 James Kennedy of Doonholm, Ayr, "Indora of Doonholm" (69,855).  
 C No. 121 Sir John Stewart-Clark, Bart., of Dundas, Dundas Castle, South Queensferry, "Pert of Dundas" (69,081).

**GALLOWAY.**

*PRESIDENT'S CHAMPION MEDAL for best Galloway.*

- No. 148 John Cunningham, Tarbreoch, Dalbeattie, "Tarbreoch Blue Bell 3rd" (26,883).

*Reserve*—No. 128 John Cunningham, Tarbreoch, Dalbeattie, "Sapphire" (12,268).

Fife and Kinross Perpetual Gold Challenge Cup, value £200, for best Galloway Animal, "*Extra Stock*" being eligible to compete. This Cup, along with an endowment of £400, was subscribed for by the Counties of Fife and Kinross in commemoration of the Society's first Show at Cupar-Fife in 1912.

- No. 148 John Cunningham, Tarbreoch, Dalbeattie, "Tarbreoch Blue Bell 3rd" (26,883).

*Reserve*—No. 128 John Cunningham, Tarbreoch, Dalbeattie, "Sapphire" (12,268).

Dr Gillespie Memorial Challenge Trophy, value £50, for best Galloway Animal registered in the Galloway Herd-Book, entered in any of the Breeding Classes, Breeding Animals shown as "*Extra Stock*" being eligible to compete, given by the Galloway Cattle Society of Great Britain and Ireland.

- No. 148 John Cunningham, Tarbreoch, Dalbeattie, "Tarbreoch Blue Bell 3rd" (26,883).

Silver Medal to the Breeder of best Bull of any age in Classes 14, 15, and 1.

- No. 123 John Blackley, Lochfield, Dumfries.

**CLASS 14. BULL, calved before 1st December 1919.—**  
 Premiums, £15, £10, £5, and £3.

- 1st No. 123 John Fraser, Barmark, Corsock, Dalbeattie, "Mormon of Dalwyne" (12,617).  
 2nd No. 124 Robert Graham, Auchengassel, Twynholm, "Tarbreoch Worthy" (13,426).  
 3rd No. 122 Sir Robert William Buchanan-Jardine, Bart., of Castlemilk, Castlemilk, Lockerbie, "Tarbreoch Borderer III." (13,775).  
 4th No. 125 Herbert Haggas, Barnsoul Farm, Dumfries, "Choice Goods of Stapford" (13,734).  
 V No. 127 James Wilson & Son, Tundergarth Mains, Lockerbie, "Wartime of Corrie-halls" (13,892).

**EXTRA STOCK.**

The following was Very Highly Commended, and a Silver Medal awarded—

- No. 128 John Cunningham, Tarbreoch, Dalbeattie, "Sapphire" (12,268).

**CLASS 15. BULL, calved on or after 1st December 1919.—**  
**Premiums, £15, £10, £5, and £3.**

- 1st No. 129 Walter Biggar, Grange Farm, Dalbeattie, "Grange Apollo" (14,370).  
 2nd No. 136 Herbert Haggas, Barnsoul Farm, Dumfries, "Random" (14,390).  
 3rd No. 130 Walter Biggar, Grange Farm, Dalbeattie, "Grange Ambassador" (14,374).  
 4th No. 132 William Buchanan Dobie, Westwater, Langholm, "Sir James of Barnsoul" (14,494).  
 V No. 135 Robert Graham, Chapel of Logan, Canonbie, "Horace of Killearn" (14,429).  
 H No. 133 W. Betts Donaldson, Auchineden, Blanesfield, Stirlingshire, "War Bond of Corriehalls" (14,518).

**CLASS 16. BULL, calved on or after 1st December 1920.—**  
**Premiums, £12, £8, £4, and £2.**

- 1st No. 142 Lady Dorothy Henley, Askerton Castle, Bampton, "War Bond 2nd of Corriehalls" (14,837).  
 2nd No. 139 John Cunningham, Tarbreoch, Dalbeattie, "Tarbreoch Grant" (14,701).  
 3rd No. 140 W. Betts Donaldson, Auchineden, Blanesfield, Stirlingshire, "Gavin of Killearn" (14,713).  
 4th No. 141 Robert Graham, Auchengassel, Twynholm, "Barmark Beacon" (14,739).  
 V No. 138 Sir Robert William Buchanan-Jardine, Bart., of Castlemilk, Castlemilk, Lockerbie, "Clansman of Castlemilk" (14,814).  
 H No. 143 William Wallat, Drumrash, Barton, "Slippery Sam of Dalwyne" (14,652).

**CLASS 17. COW, of any age, in Milk.—Premiums, £12, £8, £4, and £2.**

- 1st No. 148 John Cunningham, Tarbreoch, Dalbeattie, "Tarbreoch Blue Bell 3rd" (26,883).  
 2nd No. 151 John Fraser, Barmark, Corsock, Dalbeattie, "Royal Daisy" (25,951).  
 3rd No. 150 George Forrester, Skitby, Kirkclinton, Carlisle, "Fleur-de-Lys 9th of Skitby" (24,597).  
 4th No. 155 Herbert Haggas, Barnsoul Farm, Irongray, Dumfries, "Nancy of Stepford" (24,452).  
 V No. 147 Sir Robert William Buchanan-Jardine, Bart., of Castlemilk, Castlemilk, Lockerbie, "Eunice 4th of Castlemilk" (22,958).  
 H No. 154 Robert Graham, Chapel of Logan, Canonbie, "Logan Lady 5th" (26,463).

**EXTRA STOCK.**

The following was Very Highly Commended, and a Silver Medal awarded:—

- No. 157 Robert Graham, Auchengassel, Twynholm, "Jenny of Auchengassel" (25,879).

The following was Highly Commended, and a Medium Silver Medal awarded:—

- No. 156 Sir Robert William Buchanan-Jardine of Castlemilk, Castlemilk, Lockerbie, "Dorothy of Castlemilk" (24,676).

**CLASS 18. HEIFER, calved on or after 1st December 1919.—**  
**Premiums, £10, £5, £3, and £2.**

- 1st No. 160 John Drynan, Knockiebay, New Luce, "Tarbreoch Doris 17th" (27,476).  
 2nd No. 165 John Fraser, Barmark, Corsock, Dalbeattie, "Barmark Nerissa" (27,549).  
 3rd No. 171 D. & J. Little, Corriehalls, Lockerbie, "Tarbreoch Bella" (27,478).  
 4th No. 159 John Cunningham, Tarbreoch, Dalbeattie, "Queen May-20th of Tarbreoch" (27,477).  
 V No. 163 John Fraser, Barmark, Corsock, Dalbeattie, "Polly Mormon" (27,545).  
 H No. 164 John Fraser, Barmark, Corsock, Dalbeattie, "Barmark Brownie 2nd" (27,548).  
 C No. 169 Herbert Haggas, Barnsoul Farm, Irongray, Dumfries, "Dark Night 2nd of Barnsoul" (27,596).  
 C No. 158 Walter Biggar, Grange Farm, Dalbeattie, "Grange Maggie" (27,393).

**CLASS 19. HEIFER, calved on or after 1st December 1920.—**  
 Premiums, £10, £5, £3, and £2.

- 1st No. 173 Walter Biggar, Grange Farm, Dalbeattie, "Grange Maggie II." (27,908).  
 2nd No. 179 Sir Robert William Buchanan-Jardine, Bart., of Castlemilk, Castlemilk, Lockerbie, "Lizzie of Castlemilk" (28,127).  
 3rd No. 181 W. Betts Donaldson, Auchineden, Blanefield, Stirlingshire, "Marigold of Killearn" (28,013).  
 4th No. 175 Walter Biggar, Grange Farm, Dalbeattie, "Grange Lizzie V." (27,911).  
 V No. 182 W. Betts Donaldson, Auchineden, Blanefield, Stirlingshire, "Aurora of Killearn" (28,014).  
 H No. 184 George Forrester, Skitby, Kirklington, Carlisle, "Beatrice" (28,036).  
 C No. 180 John Cunningham, Tarbreoch, Dalbeattie, "May Queen 22nd of Tarbreoch" (27,983).  
 C No. 177 The Duke of Buccleuch and Queensberry, K.T., Drumlanrig Castle, Thornhill, Dumfriesshire, "Pierrette of Drumlanrig" (27,932).

**HIGHLAND.**

*PRESIDENT'S CHAMPION MEDAL for best Highland Animal.*

- No. 196 The Duke of Atholl, K.T., Blair Castle, Blair-Atholl, "Ossian Ban of Atholl."

*Reserve*—No. 209 D. A. Stewart, Lochdhu, Nairn, "Laochag."

Perpetual Victory Challenge Cup, approximate value 50 Guineas, *for the best Animal in the Male Classes, "Extra Stock" being eligible to compete*, given by the Highland Cattle Society of Scotland.

- No. 196 The Duke of Atholl, K.T., Blair Castle, Blair-Atholl, "Ossian Ban of Atholl."

*Silver Medal to the Breeder of the best Bull of any age in Classes 20, 21, and 22.*

- No. 196 The Duke of Atholl, K.T., Blair Castle, Blair-Atholl.

**CLASS 20. BULL, calved before 1920.—Premiums, £15, £10, £5, and £3.**

- 1st No. 196 The Duke of Atholl, K.T., Blair Castle, Blair-Atholl, "Ossian Ban of Atholl."  
 2nd No. 198 D. A. Stewart, Lochdhu, Nairn, "Uachdaran."  
 3rd No. 197 Mrs Maze of Achnacloich, Connell, Argyll, "Culnadalloch General" (3075).

**CLASS 21. BULL, calved in 1920.—Premiums, £15, £10, £5, and £3.**

- 1st No. 201 A. K. M'Douall of Logan, Stranraer, "Carrick Prince James o' Logan."  
 2nd No. 203 D. A. Stewart, Lochdhu, Nairn, "Eachann of Ensay."  
 3rd No. 200 John F. Christie, Netherton, Balfron, Stirlingshire, "Ceathanach a Rithist of Garth."  
 4th No. 202 The Earl of Southesk, Kinnaird Castle, Brechin, "Glen Morven."  
 C No. 199 John F. Christie, Netherton, Balfron, Stirlingshire, "Gaisgeach a Rithist of Garth."

**CLASS 22. BULL, calved in 1921.—Premiums, £12, £8, £4, and £2.**

- 1st No. 206 The Earl of Southesk, Kinnaird Castle, Brechin, "Glen Mark."  
 2nd No. 205 A. K. M'Douall of Logan, Stranraer, "An T-Iasgair Ruadh of Logan."  
 3rd No. 204 John F. Christie, Netherton, Balfron, Stirlingshire, "Iain of Netherton."

Perpetual Victory Challenge Cup, approximate value 35 Guineas, *for the best Animal in the Female Classes, "Extra Stock" being eligible to compete*, given by the Highland Cattle Society of Scotland.

- No. 209 D. A. Stewart, Lochdhu, Nairn, "Laochag."

## CLASS 23. COW, of any age, in Milk.—Premiums, £12, £8, £4, and £2.

- 1st No. 209 D. A. Stewart, Lochdhu, Nairn, "Laochag."  
 2nd No. 208 The Marquis of Graham, C.B., Brodick Castle, Isle of Arran,  
 "Proiseag Sgiathach III."  
 3rd No. 207 The Duke of Atholl, K.T., Blair Castle, Blair-Atholl, "Te Riabhach  
 XVI. of Atholl."

## CLASS 24. HEIFER, calved in 1919.—Premiums, £10, £5, £3, and £2.

- 1st No. 212 The Earl of Southesk, Kinnaird Castle, Brechin, "Corona II."  
 2nd No. 210 John F. Christie, Netherton, Balfon, Stirlingshire, "Ban-Righ II. of  
 Garth."  
 3rd No. 213 D. A. Stewart, Lochdhu, Nairn, "Laochag Silvio."  
 4th No. 211 The Marquis of Graham, C.B., Brodick Castle, Isle of Arran,  
 "Proiseag Sgiathach IV."

## CLASS 25. HEIFER, calved in 1920.—Premiums, £10, £5, £3, and £2.

- 1st No. 217 D. A. Stewart, Lochdhu, Nairn, "Laochag XXX."  
 2nd No. 215 The Earl of Southesk, Kinnaird Castle, Brechin, "Princess Ruth VI."  
 3rd No. 218 D. A. Stewart, Lochdhu, Nairn, "Laochag XXIX."  
 4th No. 214 John F. Christie, Netherton, Balfon, Stirlingshire, "Laochag of  
 Netherton."  
 H No. 216 The Earl of Southesk, Kinnaird Castle, Brechin, "Sidonia V."

## AYRSHIRE.

## PRESIDENT'S CHAMPION MEDAL for best Ayrshire.

- No. 232 Thomas C. Lindsay, Aitkenbrae, Monkton, "Aitkenbrae Ella 3rd"  
 (47,263).  
*Reserve*—No. 311 Thomas Logan, Low Milton, Maybole, "Bargenoch Right at  
 Last" (17,295).

Cowhill Champion Cup, approximate value £30, for the best animal of the Ayrshire breed, entered with a number in the Herd-Book. Presented by Major Henry Keswick, Cowhill Tower, Dumfries, to Ayrshire Cattle Herd-Book Society, to be competed for annually at the Shows of the Highland and Agricultural Society of Scotland.

- No. 232 Thomas C. Lindsay, Aitkenbrae, Monkton, "Aitkenbrae Ella 3rd"  
 (47,263).

Special Prize of £10 for the best Female Animal of the Ayrshire breed entered with a number in the Ayrshire Cattle Herd-Book not later than 1st June 1922, given by the Ayrshire Cattle Herd-Book Society.

- No. 232 Thomas C. Lindsay, Aitkenbrae, Monkton, "Aitkenbrae Ella 3rd"  
 (47,263).

## CLASS 26. COW in Milk, calved before 1919.—Premiums, £12, £8, and £4.

- 1st No. 232 Thomas C. Lindsay, Aitkenbrae, Monkton, "Aitkenbrae Ella 3rd"  
 (47,263).  
 2nd No. 236 Jacob S. Murray, Dalgig, New Cumnock, Ayrshire, "Carston Rhoda"  
 (52,271).  
 3rd No. 223 W. L. Ferguson, Catlinna, Lockerbie, "Edingham Belinda" (54,337).  
 V No. 255 Mungo Sloan, Douglas Hall, Ecclefechan, "Douglas Hall Roseleaf  
 2nd" (77,829).  
 H No. 231 A. & A. Kirkpatrick, Barr, Sanquhar, "Torrs Banana" (59,264).  
 C No. 222 Major C. Randolph Dudgeon, Cargen Holm, Dumfries, "Cargen Holm  
 White Stockings" (50,642).  
 C No. 225 John Jamieson, Round Bush, Annan, "Round Bush Crissie" (51,719).  
 C No. 224 A. Fingland Jack, Stocksfield Hall Farm, Stocksfield-on-Tyne,  
 "Bright Gem II."

**CLASS 27. COW in Milk, calved after 1st January 1919.—**  
**Premiums, £10, £7, and £3.**

- 1st No. 240 James Seton, Shewalton Mains, Irvine, "Shewalton Mains Polly 3rd" (58,373).  
 2nd No. 237 John Drennan, Hillhouse, Galston, "Hillhouse Bell" (75,639).  
 3rd No. 239 Robert Mackay, Ballochmartin, Millport, "Ballochmartin Beatrice 2nd" (65,293).  
 V No. 268 William Hodge, Slodahill, Lockerbie, "Sadie" (75,687).

**CLASS 28. COW, of any age, in Calf, and due to calve before 1st December of the year of the Show.—Premiums, £10, £7, and £3.**

- 1st No. 246 William L. Ferguson, Catlinns, Lockerbie, "Catlinns Princess Alice" (51,043).  
 2nd No. 249 Major Henry Keswick, Cowhill Tower, Dumfries, "Howie's White Bess" (82,240).  
 3rd No. 253 John Mackie, Dalfibble, Dumfries, "Dalfibble Bonnie" (56,232).  
 V No. 248 William Hodge, Slodahill, Lockerbie, "Slodahill Kate II." (A7576).  
 H No. 228 Major Henry Keswick, Cowhill Tower, Dumfries, "Campbelton Janie 4th" (69,040).  
 C No. 252 James Mackie, Relief, Ecclefechan, "Dalfibble Tosh" (65,141).  
 C No. 256 Sir Hugh Shaw Stewart, Bart., C.B., Ardgowan, Inverkip, "Ardgowan Amazon" (63,443).

**EXTRA STOCK.**

The following were Very Highly Commended, and Silver Medals awarded:—

- No. 257 William Hodge, Slodahill, Lockerbie, "Alice II." (A6634).  
 No. 258 James Mackie, Relief, Ecclefechan, "Dalfibble Grace Darling II." (38,980).

**CLASS 29. HEIFER, calved in or after 1919, in Calf and due to calve before 1st December of the year of the Show.—Premiums, £10, £7, and £3.**

- 1st No. 277 James Seton, Shewalton Mains, Irvine, "Shewalton Mains Violet 4th" (75,544).  
 2nd No. 270 Lieut.-Colonel W. T. R. Houldsworth, Threave, Kirkmichael, Ayrshire, "Threave Violetta" (73,653).  
 3rd No. 242 Sir Hugh Shaw Stewart, Bart., C.B., Ardgowan, Inverkip, "Ardgowan Novice" (67,800).  
 V No. 263 Crichton Royal Institution, Crichton Farm, Dumfries, "Crichton Titwood 6th" (62,176).  
 H No. 260 Hon. G. Corbett, Rowallan, Kilmarnock, "Hobsland Jean 6th" (67,986).  
 C No. 273 A. & A. Kirkpatrick, Barr, Sanquhar, "Barr Dairymaid" (68,911).  
 -C No. 274 James Mackie, Relief, Ecclefechan, "Relief Maud" (73,488).

**CLASS 30. HEIFER, calved in 1920.—Premiums, £10, £5, and £3.**

- 1st No. 290 Patrick Wardrop, Garlaff, Cumnook, "Garlaff Miss Olive" (67,720).  
 2nd No. 283 James Howie, Hillhouse, Kilmarnock, "Holehouse Sophia II."  
 3rd No. 280 Hon. G. Corbett, Rowallan, Kilmarnock, "Howie's Likely Maid" (69,350).  
 V No. 282 Mrs Houston-Craufurd, Dunlop House, Dunlop, "Dunlop Miss Muffin" (68,112).  
 H No. 288 James Seton, Shewalton Mains, Irvine, "Shewalton Mains Chorus Girl" (75,631).  
 C No. 289 Sir Hugh Shaw Stewart, Bart., C.B., Ardgowan, Inverkip, "Ardgowan Ness" (78,244).

## CLASS 31. HEIFER, calved in 1921.—Premiums, £8, £5, and £3.

- 1st No. 298 John Logan, Bargaenoch, Drongan, "Bargaenoch Dawn" (76,150).  
 2nd No. 297 Major Henry Keswick, Cowhill Tower, Dumfries, "Cowhill Ella."  
 3rd No. 299 Thomas Logan, Low Milton, Maybole, "Low Milton Elsie."  
 V No. 291 Thomas Barr, Hobsland, Monkton, "Hobsland Lucky Girl" (77,924).  
 H No. 295 Mrs Housion-Cranford, Dunlop House, Dunlop, "Dunlop Harpsichord" (79,154).  
 C No. 302 Sir Hugh Shaw Stewart, Bart., C.B., Ardgowan, Inverkip, "Ardgowan Nossie" (82,524).  
 C No. 303 Patrick Wardrop, Garlaiff, Cumnock, "Garlaiff Miss Viola" (76,505).

Special Prize of £10 for the best Male Animal of the Ayrshire breed entered with a number in the Ayrshire Cattle Herd-Book not later than 1st June 1922, given by the Ayrshire Cattle Herd-Book Society.

- No. 311 Thomas Logan, Low Milton, Maybole, "Bargaenoch Right at Last" (17,295).

Silver Medal to the Breeder of best Bull of any age in Classes 32, 33, and 34.

- No. 304 Thomas Barr, Hobsland, Monkton.

## CLASS 32. BULL, calved before 1920.—Premiums, £12 £8, and £4.

- 1st No. 304 Hon. G. Corbett, Rowallan, Kilmarnock, "Hobsland Mendel" (18,422).  
 2nd No. 305 A. Fingland Jack, Stocksfield Hall Farm, Stocksfield-on-Tyne, "Kirkland Clockwork" (17,898).  
 3rd No. 310 Colin Thomson, Brae of Auchendrane, Alloway, Ayr, "Low Milton Prince Clifton" (18,612).  
 V No. 306 John Johnstone, Millantae, Lockerbie, "Bargaenoch Nugget" (18,484).  
 H No. 308 A. & A. Kirkpatrick, Barr, Sanquhar, "Drumsie Gaiety" (18,250).

## EXTRA STOCK.

The following was Very Highly Commended, and a Silver Medal awarded :—

- No. 311. Thomas Logan, Low Milton, Maybole, "Bargaenoch Right at Last" (17,295).

## CLASS 33. BULL, calved in 1920.—Premiums, £10, £7, and £3.

- 1st No. 314 Hugh Gilmour, Windhill, Eaglesham, "Bargaenoch Gallant Knight" (19,750).  
 2nd No. 321 D. & W. Wallace, Auchenbrain, Mauchline, "South Craig Footprint" (19,958).  
 3rd No. 315 Hugh Hastings, Powillimount, Dumfries, "Bargaenoch Breadalbane" (19,742).  
 V No. 313 A. D. Bateson, Lotus, Beeswing, Dumfries, "Reconstrutor" (20,267).  
 H No. 320 John Slater, Grange, Kirkeudbright, "Grange Guardsman" (20,071).  
 C No. 318 Robert Osborne, Morton Mains, Thornhill, "Morton Mains Come Again."

## CLASS 34. BULL, calved in 1921.—Premiums, £8, £5, and £3.

- 1st No. 323 Clark Brothers, Fingart, Dunlop, Ayrshire, "Bargaenoch Silverdale" (20,958).  
 2nd No. 327 Adam W. Montgomerie, Lessnessock, Ochiltree, "South Craig Dominion" (21,082).  
 3rd No. 325 Lieut.-Colonel W. T. R. Houldsworth, Threave, Kirkmichael, Ayrshire, "Hobsland Lucky Lad" (21,184).  
 V No. 322 Thomas Barr, Hobsland, Monkton, "Hobsland Activity" (21,108).  
 H No. 328 Robert Osborne, Morton Mains, Thornhill, "Morton Mains Blood For Ever."

## BRITISH FRIESIAN.

*PRESIDENT'S CHAMPION MEDAL for best British Friesian Animal.*

No. 347 Andrew Macaulay, Lathalmond Farm, Dunfermline, "Royal Akke" (48,680).

*Reserve*—No. 352 John Houston, Langside, Port Glasgow, "Royal Hollakkie P.I."

Champion Prize of £5, given by the British Friesian Cattle Society  
*for the best Male exhibited.*

No. 380 Hamilton Bros., Kessington, Bearsden, "Terling Donovan" (8805).

CLASS 35. BULL, calved in or before 1919.—Premiums, £10, £5, and £3.

1st No. 330 Hamilton Bros., Kessington, Bearsden, "Terling Donovan" (8805).

2nd No. 329 Charles Aitkenhead, Carr House Farm, New Seaham, "Kirkhill Major 2nd" (10,059).

3rd No. 334 Captain John Stirling of Fairburn, Muir of Ord, "Seaton Emperor" (12,685).

V No. 332 Robert Lee Jobbling and John Whaley, 5 The Grove, Barton, Newcastle-on-Tyne, "Longslow Oak" (12,187).

H No. 331 David Jamieson & Sons, Low House, Armathwaite, "Chaddesley Panboy" (11,267).

CLASS 36. BULL, calved in 1920.—Premiums, £10, £5, and £3.

1st No. 335 Trustees of Alasdair W. MacRobert, Douneside, Tarland, Aberdeenshire, "Douneside Hatsumerchaap P.I." (13,719).

2nd No. 336 Albert Weightman, Middle Herrington Dairy Farm, Sunderland, "Herrington Autumn-mijn" (14,333).

CLASS 37. BULL, calved in 1921.—Premiums, £10, £5, and £3.

1st No. 337 David Adams, Auchencraig, Dumbarton, "Riccartsbarr Hollander."

2nd No. 339 Trustees of Alasdair W. MacRobert, Douneside, Tarland, Aberdeenshire, "Douneside Hollander 2nd P.I."

3rd No. 340 James P. Russell, South Bardowie, Milngavie, "Bardowie Excelda."

V No. 338 The Marquis of Bute, Mount Stuart, Rothesay, "Bute Janus."

Champion Prize of £5 given by the British Friesian Cattle Society *for the best Female exhibited.*

No. 347 Andrew Macaulay, Lathalmond Farm, Dunfermline, "Royal Akka" (48,680).

CLASS 38. COW in Milk, calved in or before 1918.—  
Premiums, £10, £5, and £3.

1st No. 343 Trustees of Alasdair W. MacRobert, Douneside, Tarland, Aberdeenshire, "Lochlands Noreen" (25,516).

2nd No. 342 The Marquis of Bute, Mount Stuart, Rothesay, "Fambridge Capital 2nd" (24,422).

3rd No. 345 William Young & Sons, Hillcrest Farm, Harraby, Carlisle, "Elwin Ivy" (24,392).

CLASS 39. HEIFER in Milk, calved in 1919 or 1920.—  
Premiums, £10, £5, and £3.

2nd No. 346 Robert Lee Jobbling and John Whaley, 5 The Grove, Barton, Newcastle-on-Tyne, "Riding Sunbeam" (41,658).



**CLASS 40. HEIFER in Calf, with her first calf to calve before 3 years old.—**  
 Premiums, £10, £5, and £3.

- 1st No. 347 Andrew Macaulay, Lathalmond Farm, Dunfermline, "Royal Akke" (48,580).  
 2nd No. 349 Trustees of Alasdair W. MacRobert, Douneside, Tarland, Aberdeenshire, "Seaton Fairy."  
 3rd No. 348 Trustees of Alasdair W. MacRobert, Douneside, Tarland, Aberdeenshire, "Douneside St Kathleen" (44,588).  
 V No. 350 William Young & Sons, Hillcrest Farm, Harraby, Carlisle, "Elwin Winnie" (44,912).

**CLASS 41. HEIFER, calved in 1921.—Premiums, £10, £5, and £3.**

- 1st No. 352 John Houston, Langside, Port Glasgow, "Royal Hollakkie P.I."  
 2nd No. 354 Trustees of Alasdair W. MacRobert, Douneside, Tarland, Aberdeenshire, "Douneside Mousme."  
 3rd No. 358 David Jamieson & Sons, Low House, Armathwaite, "Dunninald Rachelklass."

**RED POLL.**

**PRESIDENT'S CHAMPION MEDAL for best Red Poll Animal.**

- No. 362 J. G. Dugdale, The Abbey, Cirencester, "Necton Gloucester" (11,423).

*Reserve*—No. 377 His Majesty the King, Sandringham, King's Lynn, "Royal Polly" (29,204).

**CLASS 42. BULL of any age.—Premiums, £10, £5, and £3.**

- 1st No. 362 J. G. Dugdale, The Abbey, Cirencester, "Necton Gloucester" (11,423).  
 2nd No. 355 His Majesty the King, Sandringham, King's Lynn, "Easton Autocrat" (11,624).  
 3rd No. 360 Thomas Brown & Son, Marham Hall, King's Lynn, Norfolk, "Marham Plantagenet" (12,069).  
 V No. 365 David Oswald, La Mancha, Ormskirk, "Marham Pennant" (11,412).  
 H No. 361 Charles M. Collins, Kelvindale, Maryhill, Glasgow, "Easton Loch Ranza" (11,326).  
 C No. 358 Lieut.-Colonel Charles Brook of Kinmount, Annan, "Kinmount Stockbroker" (12,030).

**CLASS 43. COW or HEIFER in Milk or in Calf, calved in or before 1919.—**  
 Premiums, £10, £5, and £3.

- 1st No. 371 Thomas Brown & Son, Marham Hall, King's Lynn, Norfolk, Cow, "Handsome Plantain P.I." (24,577).  
 2nd No. 370 Lieut.-Colonel Charles Brook of Kinmount, Annan, Heifer, "Kinmount Ruby 2nd" (27,919).  
 3rd No. 368 Lieut.-Colonel Charles Brook of Kinmount, Annan, Cow, "Haresfield Princess 1st" (25,130).  
 V No. 375 David Oswald, La Mancha, Ormskirk, Heifer, "Hallsall Royal Dairylass" (27,723).  
 H No. 367 William Alexander, Banknock House, Banknock, Stirlingshire, Cow, "Starling" (24,866).  
 C No. 372 Charles M. Collins, Kelvindale, Maryhill, Glasgow, Heifer, "Kelvindale Pansy" (27,896).  
 C No. 374 W. H. Goff, Lainshaw, Stewarton, Cow, "Dallinger Babs 3rd (B11)" (26,120).

CLASS 44. HEIFER, calved in 1920 or 1921.—Premiums, £10, £5, £3.

- 1st No. 377 His Majesty the King, Sandringham, King's Lynn, "Royal Polly" (29,204).  
 2nd No. 379 Lieut. - Colonel Charles Brook of Kinmount, Annan, "Kinmount Sweet Chestnut" (28,974).  
 3rd No. 388 The Marchioness of Graham, Brodick Castle, Isle of Arran, "Easton Artist."  
 V No. 384 The Marchioness of Graham, Brodick Castle, Isle of Annan, "Easton Absentee."  
 H No. 380 Lieut. - Colonel Charles Brook of Kinmount, Annan, "Kinmount Queen 1st" (28,973).  
 C No. 382 W. H. Goff, Lainshaw, Stewarton, "Lainshaw Primula (W2)" (29,019).

### BELTED GALLOWAY.

*PRESIDENT'S CHAMPION MEDAL for the best Belted Galloway Animal.*

- No. 387 James Jardine Bell-Irving of Makerstoun, Kelso, "Makerstoun Dan Dun" (54 (B)).

*Reserve*—No. 403 Robert Graham, Auchengassel, Twynholm, Cow, "Halmyre Bess" (172).

Knockbrex Challenge Cup, value £50, *for the best Belted Galloway Animal*. This Cup is offered by Mrs Brown of Knockbrex for the best Belted Galloway animal registered in the Dun and Belted Galloway Cattle Breeders' Association Herd-Book, entered in any of the breeding classes, at the Show or Shows at which it may be competed for.

- No. 387 James Jardine Bell-Irving of Makerstoun, Kelso, "Makerstoun Dan Dun" (54 (B)).

CLASS 45. BULL, calved before 1st December 1920.—Premiums, £8, £4, and £2.

- 1st No. 387 James Jardine Bell-Irving of Makerstoun, Kelso, "Makerstoun Dan Dun" (54 (B)).  
 2nd No. 389 Robert Graham, Auchengassel, Twynholm, "Mark Champion" (57).  
 3rd No. 388 The Marquis of Bute, Mount Stuart, Rothesay, "Bute Royal Record" (28).  
 V No. 390 Robert Graham, Auchengassel, Twynholm, "Mark Alex" (56).  
 H No. 391 Captain Edward Grierson of Halket Leathes, Castle-Douglas, "Heather Jock" (40 (B)).  
 C No. 392 General Sir Ian Hamilton, Lullenden Farm, East Grinstead, Sussex, "Lullenden Prestige" (53).

CLASS 46. BULL, calved on or after 1st December 1920.—  
 Premiums, £8, £4, and £2.

- 1st No. 393 Mrs Brown of Knockbrex, Kirkcudbright, "Knockbrex Pollux" (51 (B)).  
 2nd No. 395 Robert Graham, Auchengassel, Twynholm, "Mark Borderer" (63).  
 3rd No. 394 The Marquis of Bute, Mount Stuart, Rothesay, "Bute Not Likely" (26).

**CLASS 47. COW or HEIFER**, calved before 1st December 1919, in Milk or in Calf; if in Calf, to calve on or before 1st December of the year of the Show.—Premiums, £8, £4, and £2.

- 1st No. 403 Robert Graham, Auchengassel, Twynholm, Cow, "Halmyre Bess" (172).  
 2nd No. 397 Mrs Brown of Knockbrex, Kirkcudbright, Cow, "Knockbrex Queen" (210 (B)).  
 3rd No. 402 Robert Graham, Auchengassel, Twynholm, Cow, "Mark Flora" (229).  
 V No. 398 Mrs Brown of Knockbrex, Kirkcudbright, Cow, "Knockbrex Mayflower" (205 (B)).  
 H No. 396 James Jardine Bell-Irving of Makerstoun, Kelso, Cow, "Makerstoun Abbots" (239 (B)).  
 C No. 400 The Marquis of Bute, Mount Stuart, Rothesay, Cow, "Bute Princess" (151).  
 C No. 401 Sir William Cross, Bart., of Scatwell, Strathpeffer, Cow, "Scatwell Knockbrex Lady Jean" (255).

**CLASS 48. HEIFER**, calved on or after 1st December 1919.—Premiums, £8, £4, £2.

- 1st No. 405 Mrs Brown of Knockbrex, Kirkcudbright, "Knockbrex Lady Belinda" (200 (B)).  
 2nd No. 414 Robert Graham, Auchengassel, Twynholm, "Mark Dora" (224).  
 3rd No. 409 The Marquis of Bute, Mount Stuart, Rothesay, "Bute Minnie" (147).  
 V No. 408 The Marquis of Bute, Mount Stuart, Rothesay, "Snowfall" (152).  
 H No. 413 Robert Graham, Auchengassel, Twynholm, "Halmyre Kate II." (179).  
 C No. 406 Mrs Brown of Knockbrex, Kirkcudbright, "Knockbrex Ideal" (199 (B)).  
 C No. 410 Sir William Cross, Bart., of Scatwell, Strathpeffer, "Scatwell Knockbrex Queen II." (256).

### EXTRA CATTLE—BLUE GREY.

*PRESIDENT'S CHAMPION MEDAL for best Blue Grey Animal.*

No. 417 Christopher Jeffrey, Kirtleton, Waterbeck, Lockerbie, "Kirtleton Bovril."

*Reserve*—No. 421 George Jeffrey, Wyliehole, Lockerbie, "Captain Will."

**CLASS 49. STEER**, calved on or after 1st January 1920.—Premiums, £10, £5, and £3.

- 1st No. 417 Christopher Jeffrey, Kirtleton, Waterbeck, Lockerbie, "Kirtleton Bovril."  
 2nd No. 415 Robert Graham, Chapel of Logan, Canonbie, "Bewcastle."  
 3rd No. 416 Robert Graham, Chapel of Logan, Canonbie, "Laird o' Liddesdale."

**CLASS 50. STEER**, calved on or after 1st January 1921.—Premiums, £10, £5, and £3.

- 1st No. 421 George Jeffrey, Wyliehole, Lockerbie, "Captain Will."  
 2nd No. 419 Robert Graham, Chapel of Logan, Canonbie, "Jacob's Best."  
 3rd No. 418 Edward Jonas Brook, Hoddam Castle, Ecclefechan.

## HORSES

### FOR AGRICULTURAL PURPOSES.

#### DRAUGHT STALLIONS.

##### *PRESIDENT'S CHAMPION MEDAL for best Clydesdale Stallion or Colt.*

No. 424 James Kilpatrick, Craigie Mains, Kilmarnock, "Craigie Litigant" (19,071).  
*Reserve*—No. 471 John Johnston, Dunmore Home Farm, Larbert, "Dupplin Castle."

*The Silver Medal to the Breeder of the best Male Animal of any age in  
 Classes 51, 52, 53, and 54.*

No. 424 James Anderson, Pitcarry, Bervie.

**CLASS 51. STALLION**, foaled before 1919.—Premiums, £20, £15, £10, and £4.

- 1st No. 424 James Kilpatrick, Craigie Mains, Kilmarnock, "Craigie Litigant" (19,071).
- 2nd No. 428 Andrew M. Montgomery of Nether Hall, Castle-Douglas, "Baron's Seal" (17,097).
- 3rd No. 426 George M'Dowall, Kidminnoch, Ervie, Stranraer, "Dunure Tower" (16,574).
- 4th No. 423 Walter A. Aitkenhead, Haining Valley, Linlithgow, "Haining Castle" (19,789).
- V No. 439 William Yates, jun., Breaks Hall, Appleby, "Dunure Printman" (20,324).
- H No. 437 William Veitch, Drumry Mains, Drumchapel, "Drumry Reformer" (19,698).
- C No. 430 Andrew M. Montgomery of Nether Hall, Castle-Douglas, "Dunraven" (20,309).

**CLASS 52. ENTIRE COLT**, foaled in 1919.—Premiums, £20, £15, £10, and £4.

- 1st No. 445 Northern Stud, Limited, Ashgrove, Elgin, "Fyvie Enterprise" (20,581).
- 2nd No. 443 Andrew M. Montgomery of Nether Hall, Castle-Douglas, "Dunure Norval" (20,321).
- 3rd No. 444 Andrew M. Montgomery of Nether Hall, Castle-Douglas, "The Alien" (20,473).
- 4th No. 446 John Pollock, Byres Farm, Pollokshaws, "Gotha" (20,361).
- H No. 441 John Baird, Netherwood, Dumfries, "Netherwood Independence" (20,402).
- C No. 447 R. Rattray, Parkconon, Arbroath, "Royal Arden" (20,432).

**CLASS 53. ENTIRE COLT**, foaled in 1920.—Premiums, £20, £15, £10, and £4.

- 1st No. 455 Andrew M. Montgomery of Nether Hall, Castle-Douglas, "Buchan Voucher" (20,519).
- 2nd No. 460 Falconer L. Wallace of Balcairn, Oldmeldrum, "Balcairn Footnote."
- 3rd No. 448 A. Cunningham, Cragston, Stewarton, "Cragston Mount Royal."
- 4th No. 451 John Johnston, Dunmore Home Farm, Larbert, "Dunmore."
- V No. 457 Northern Stud, Limited, Ashgrove, Elgin, "Merridale."
- H No. 458 John Pollock, Byres Farm, Pollokshaws, "Marshal Hall" (20,614).
- C No. 452 James Kilpatrick, Craigie Mains, Kilmarnock, "Craigie Gayman."

**CLASS 54. ENTIRE COLT**, foaled in 1921.—Premiums, £15, £10, £6, and £4.

- 1st No. 471 John Johnston, Dunmore Home Farm, Larbert, "Dupplin Castle."
- 2nd No. 461 David Adams, Auchencraig, Dumbarton.
- 3rd No. 479 Robert Park, Brunstane, Portobello.
- 4th No. 472 James Kilpatrick, Craigie Mains, Kilmarnock, "Craigie Sundial."
- V No. 478 Northern Stud, Limited, Ashgrove, Elgin.
- H No. 465 James Dickie, Kelton House, Dumfries.
- C No. 467 James Gray, Birkenwood, Kippen Station, "Ahtob."

**DRAUGHT GELDINGS.***PRESIDENT'S CHAMPION MEDAL for best Draught Gelding.*

- No. 484 Scottish Co-operative Wholesale Society, Limited, 95 Morrison Street, Glasgow, "Jim Scott."  
*Reserve*—No. 496 James Clark, Netherlea, Cathcart, Renfrewshire, "Welcome."

**CLASS 55. DRAUGHT GELDING, foaled before 1919.—Premiums, £10, £5, and £3.**

- 1st No. 484 Scottish Co-operative Wholesale Society, Limited, 95 Morrison Street, Glasgow, "Jim Scott."  
 2nd No. 481 James Fleming, Barns of Claverhouse, Dundee, "Dandy."  
 3rd No. 482 Charles E. Galbraith, The Barony, Dumfries, "Prince."

**CLASS 56. DRAUGHT GELDING, foaled in 1919.—Premiums, £6, £4, and £3.**

- 1st No. 490 William Kerr, Beckfoot, Rockcliffe, Carlisle, "J.R.B."  
 2nd No. 485 James Clark, Netherlea, Cathcart, "Hugo."  
 3rd No. 488 Robert Dalziel, Rue, Auldgirth, "Prince."  
 V No. 492 William Mather, Milne Graden, Coldstream, "Sergeant Murphy."

**CLASS 57. DRAUGHT GELDING, foaled in 1920.—Premiums, £6, £4, and £3.**

- 1st No. 496 James Clark, Netherlea, Cathcart, Renfrewshire, "Welcome."  
 2nd No. 498 Robert Park, Brunstane, Portobello.  
 3rd No. 497 Robert Dalziel, Rue, Auldgirth.  
 V No. 499 Robert Jardine Paterson, Balgray Home Farm, Lockerbie, "Prince David."

**DRAUGHT MARES AND FILLIES.***PRESIDENT'S CHAMPION MEDAL for best Clydesdale Mare or Filly.*

- No. 525 John P. Sleigh of St John's Wells, Fyvie, filly, "Wells Mescal."  
*Reserve*—No. 541 Thomas & Matthew Templeton, Sandyknowe, Kelso, "Gladys."

Renfrewshire Perpetual Gold Challenge Cup, value £250, *for best Clydesdale Mare or Filly, "Extra Stock" being eligible to compete.* This Cup, along with an endowment of £500, was provided from money collected in Renfrewshire by the late Provost Muir MacKean of Paisley, and is in commemoration of the Society's first show in the county of Renfrew in 1913.

- No. 525 John P. Sleigh of St John's Wells, Fyvie, filly, "Wells Mescal."  
*Reserve*—No. 541 Thomas & Matthew Templeton, Sandyknowe, Kelso, "Gladys."

Cawdor Challenge Cup, value 50 guineas, *for best Clydesdale Mare or Filly registered in the Clydesdale Stud-Book*, given by the Clydesdale Horse Society.

- No. 525 John P. Sleigh of St John's Wells, Fyvie, filly, "Wells Mescal."

**CLASS 58. MARE of any age, with Foal at foot.—Premiums, £20, £12, £7, and £4.**

- 1st No. 504 James Dickie, Kelton House, Dumfries, "Nyasa Queen."  
 2nd No. 505 Charles S. Elliot, Nisbet Hill, Duns, "Nisbet Harmony."  
 3rd No. 503 Samuel Brown, Culraven, Kirkcudbright, "Culraven Sunray" (44,773).  
 4th No. 508 Thomas Sloan, Fountainbleau, Dumfries, "Sady Patterson."  
 V No. 502 David Bell, Woodfield, Eastriggs, "Tango Lady" (42,503).

**CLASS 59. YELD MARE**, foaled before 1919.—Premiums, £12, £9, £6, and £4.

- 1st No. 518 John P. Sleigh of St John's Wells, Fyvie, "Blackwood Dawn."  
 2nd No. 512 James M'Connell, Boreland, Whauphill, "Emmeline" (52,565).  
 3rd No. 515 Douglas D. Murray, The Dene, Seaham Harbour, "Seaham Destiny."  
 4th No. 514 Douglas D. Murray, The Dene, Seaham Harbour, "Queen of the Ring" (46,008).  
 V No. 517 Andrew Russell, Summerston, Maryhill, "Beauty's Favourite" (48,919).  
 H No. 516 Robert Jardine Paterson, Balgray Home Farm, Lockerbie, "Fact" (48,865).  
 C No. 510 James Gray, Birkenwood, Kippen Station, "Elsie."

**CLASS 60. YELD MARE or FILLY**, foaled in 1919.—Premiums, £12, £9, £6, and £4.

- 1st No. 525 John P. Sleigh of St John's Wells, Fyvie, Filly, "Wells Mescal."  
 2nd No. 527 Falconer L. Wallace of Balcairn, Oldmeldrum, Aberdeenshire, Filly, "Dunure Syrene."  
 3rd No. 521 J. Ernest Kerr of Harviestoun, Dollar, Filly, "Harviestoun Fairy."  
 4th No. 520 Dr John Cumming, Drumcross, Bishopton, Renfrewshire, Filly, "Perfect Lady."  
 V No. 522 J. Ernest Kerr of Harviestoun, Dollar, Filly, "Harviestoun Princess."  
 H No. 524 John M'Kay, Crossmill Farm, Barrhead, Filly, "Miss Graham."  
 C No. 526 Thomas Sloan, Fountainbleau, Dumfries, Filly, "Honey Moon."

William Taylor Memorial Prize of £10 and Certificate to the Breeder of the best Clydesdale Filly entered in Classes 61 or 62—given by William Taylor Memorial Committee.

No. 541 H. Roberts, Monkcastle, Carlisle.

**CLASS 61. FILLY**, foaled in 1920.—Premiums, £12, £9, £6, and £4.

- 1st No. 541 Thomas & Matthew Templeton, Sandyknowe, Kelso, "Gladys."  
 2nd No. 540 William Taylor, Inveravon, Polmont, "Tana."  
 3rd No. 538 John P. Sleigh of St John's Wells, Fyvie, "Raysun."  
 4th No. 532 Executors of G. A. Ferguson, Surradale, Elgin, "Malvina."  
 V No. 528 David Adams, Auchencraig, Dumbarton, "Kate."  
 H No. 539 John Smith, Meikle Knox, Castle-Douglas, "Blossom."  
 C No. 529 Thomas Cross, Knockdon, Maybole, "Gee Whizz."  
 C No. 531 Archibald Dobie, Hitchell Farm, Cummertrees, "Hitchell Rose."

**CLASS 62. FILLY**, foaled in 1921.—Premiums, £12, £9, £6, and £4.

- 1st No. 556 Douglas D. Murray, The Dene, Seaham Harbour, "Queen o' the Law."  
 2nd No. 549 James Howie, Hillhouse, Kilmarnock, "Nancy."  
 3rd No. 543 William Brown, Craigton, Bishopton.  
 4th No. 544 Thomas Clark, Pitlandie, Stanley, Perth, "Margaret."  
 V No. 551 J. Ernest Kerr of Harviestoun, Dollar, "Harviestoun Audrey."  
 H No. 553 J. Ernest Kerr of Harviestoun, Dollar, "Harviestoun Florence."  
 C No. 545 Robert Dalziel, Rue, Auldirth, "Rue Mayflower."  
 C No. 557 Andrew Russell, Summerston, Maryhill, "Jessie's Dream."  
 C No. 554 James M'Connell, Boreland, Whauphill, "Miss Record."

## HUNTERS.

### PRESIDENT'S CHAMPION MEDAL for best Hunter.

No. 600 E. W. Hope-Johnstone, Rachills, Lockerbie, Gelding, "Babe in the Woods."

Reserve—No. 595 John Johnstone, Halleaths, Lochmaben, Gelding, "Perhaps."

CLASS 63. HUNTER BROOD MARE, with Foal at foot.—  
Premiums, £15, £7, and £3.

- 1st No. 566 Moffat S. Thomson, Spotsmains, Kelso, "Pussyfoot."  
2nd No. 565 J. A. Robson-Scott of Newton, Jedburgh, "Dunion."  
3rd No. 564 David Landale, Dalswinton, Kirkmahoe, Dumfries, "Castledale."  
V No. 563 Miss Mary A. Dalrymple, Ellinton, St Boswells, "Promise" (3654).  
H No. 562 Miss Cathew-Yorstown, Parkend, Lockerbie, "Two Step."

Champion Gold Medal, for best Hunter Filly, not exceeding three years old, registered with a number in the Hunter Stud-Book, or the entry tendered within a month of the award—given by the Hunters' Improvement and National Light Horse Breeding Society.

- No. 572 Mrs James Arthur, Montgomerie, Tarbolton, Ayrshire, Filly, "Billet Doux."

Reserve—No. 584 J. A. Robson-Scott, of Newton, Jedburgh, Filly.

CLASS 64. YELD MARE, FILLY, or GELDING, for field, foaled in 1919—  
in hand.—Premiums, £10, £5, and £3.

- 1st No. 571 Moffat S. Thomson, Spotsmains, Kelso, Gelding, "Cheerio."  
2nd No. 567 John R. Beattie, Baurch Farm, Rigg of Gretna, Gelding, "Comical."  
3rd No. 570 Mrs Galbraith, The Barony, Dumfries, Gelding, "Haig."  
V No. 568 Thomas Cross, The Grange, Kirkcudbright, Filly, "Doreen."

CLASS 65. YELD MARE, FILLY, or GELDING, for field, foaled in 1920—  
in hand.—Premiums, £10, £5, and £3.

- 1st No. 572 Mrs James Arthur, Montgomerie, Tarbolton, Ayrshire, Filly, "Billet Doux."  
2nd No. 578 James J. Paterson, Terrona, Langholm, Gelding, "Terrona."  
3rd No. 577 George D. Mulcaster, New Sandsfield, Burgh-by-Sands, Carlisle, Gelding, "Royalist."  
V No. 576 David Landale, Dalswinton, Kirkmahoe, Dumfries, Filly.  
H No. 575 John Johnstone, Halleaths, Lochmaben, Gelding, "Royal Escapade."  
C No. 574 Brigadier-General R. M. Dudgeon, D.S.O., M.C., Winnecowetts, Gretna, Filly, "Honeymoon 4th."

CLASS 66. COLT, GELDING, or FILLY, foaled in 1921, the produce of thoroughbred Stallion or registered Hunter sire, out of Mare of any breed.—  
Premiums, £10, £5, and £3.

- 1st No. 585 Moffat S. Thomson, Spotsmains, Kelso, Gelding, "Young Pretender."  
2nd No. 584 J. A. Robson-Scott of Newton, Jedburgh, Filly.  
3rd No. 581 Miss Mary A. Dalrymple, Ellinton, St Boswells, Filly, "Pax."  
V No. 580 Mrs James Arthur, Montgomerie, Tarbolton, Ayrshire, Filly, "Olive III."  
C No. 583 David Landale, Dalswinton, Kirkmahoe, Dumfries, Filly.

CLASS 67. MARE or GELDING, foaled in 1918—in saddle.—  
Premiums, £15, £10, and £5.

- 1st No. 588 G. H. J. Dove, Mellerstain, Gordon, Berwickshire, Gelding, "Rogerson."  
2nd No. 589 Mrs Galbraith, The Barony, Dumfries, Gelding, "Foch."  
3rd No. 586 John R. Beattie, Baurch Farm, Rigg of Gretna, Gelding, "Courtier."  
H No. 587 Miss Thomson Currie, Hoeleridge, Melrose, Mare, "Meg Merrilies" (6032).

CLASS 68. MARE or GELDING, foaled before 1918, to carry any weight  
up to 13 st. 7 lb.—in saddle.—Premiums, £15, £10, and £5.

- 1st No. 595 John Johnstone, Halleaths, Lochmaben, Gelding, "Perhaps."  
2nd No. 596 William Young & Sons, Hill Crest Farm, Haraby, Carlisle, Gelding, "The Man."  
3rd No. 591 Lady Buchanan-Jardine, Castlemilk, Lockerbie, Gelding, "Redgate."  
H No. 592 Lady Buchanan-Jardine, Castlemilk, Lockerbie, Gelding, "Squirrel."

**CLASS 69. MARE or GELDING**, foaled before 1918, to carry 13 st. 7 lb. and over—in *saddle*.—Premiums, £15, £10, and £5.

- 1st No. 600 E. W. Hope-Johnstone, Rachills, Lockerbie, Gelding, "Babe in the Woods."  
 2nd No. 599 Major W. H. Goff, Lainshaw, Stewarton, Gelding, "Cornelian."  
 3rd No. 601 William Young & Sons, Hill Crest Farm, Haraby, Carlisle, Gelding, "Paragon."  
 V No. 597 John William Buchanan - Jardine, Comlongon Castle, Ruthwell, Dumfriesshire, Gelding, "Chetwode."

**CLASS 70. HACK of HUNTER TYPE**, foaled in or before 1918, 15.2 hands and under—in *saddle*.—Premiums, £15, £10, and £5.

- 1st No. 602 D. Ballantyne, Barns, Peebles, Gelding, "Paddy."  
 2nd No. 603 David Bell, Peel Houses, Lockerbie, Mare, "Daisy Bell."  
 3rd No. 604 Miss Campbell, Garscube, Glasgow, Mare, "Brigit."  
 H No. 605 Mrs Galbraith, The Barony, Dumfries, Mare, "Rebellious Susan."

## HACKNEYS.

(ALL SHOWN IN HAND.)

*PRESIDENT'S CHAMPION MEDAL for best Hackney in Classes 71 to 75.*

No. 607 Enoch Glen, Kaim Park, Bathgate, "Creake Lady" (23,912).

*Reserve*—No. 612 C. F. Kenyon, Ewloe Hall Stud, Buckley, near Chester, "Buckley Courage" (13,771).

Champion Prize of £10 is offered by the Hackney Horse Society for best *Mare or Filly in Hackney or Pony Classes*, animals entered as "*Extra Stock*" being eligible.

No. 607 Enoch Glen, Kaim Park, Bathgate, "Creake Lady" (23,912).

*Reserve*—No. 614 John M. M'Neillie, Hightownhead, Dalswinton, Kirkmahoe, Dumfries, Mare, "Lady Stobo" (23,646).

**CLASS 71. BROOD MARE**, over 14 hands, with Foal at foot, or to foal this season to a registered sire. Registered in the Hackney Stud-Book.—Premiums, £10, £8, and £4.

- 1st No. 607 Enoch Glen, Kaim Park, Bathgate, "Creake Lady" (23,912).  
 2nd No. 608 John M. M'Neillie, Hightownhead, Dalswinton, Kirkmahoe, Dumfries, "Sedgeford Dandette" (19,617).

**CLASS 72. YELD MARE or FILLY**, foaled in 1919. Registered in the Hackney Stud-Book.—Premiums, £8, £5, and £3.

(No Entry.)

**CLASS 73. ENTIRE COLT or FILLY**, foaled in 1920. Registered in the Hackney Stud-Book.—Premiums, £8, £5, and £3.

- 1st No. 609 John M. M'Neillie, Hightownhead, Dalswinton, Kirkmahoe, Dumfries, Filly, "Leopard's Carnation" (25,804).  
 2nd No. 610 Alexander Rogerson, Low Mill, Carlisle, Filly, "Zenith" (25,816).

**CLASS 74. ENTIRE COLT or FILLY**, foaled in 1921. Eligible for Entry in the Hackney Stud-Book.—Premiums, £8, £5, and £3.

- 1st No. 611 John M'Queen, Broomfield, Sanquhar, Filly.



**CLASS 75. STALLION**, foaled in or before 1919, over 14 hands. Registered in the Hackney Stud-Book.—Premiums, £10, £6, and £4.

- 1st No. 612 C. F. Kenyon, Ewloe Hall Stud, Buckley, near Chester, "Buckley Courage" (13,771).  
2nd No. 613 Robert Scott, Thornhome, Carluke, "Radiant Mathias" (13,951).

*EXTRA STOCK* (Hackney).

The following was Very Highly Commended, and a Silver Medal awarded :—

- No. 614 John M. McNeillie, Hightownhead, Dalswinton, Kirkmahoe, Dumfries, Mare, "Lady Stobo" (23,646).

**PONIES.**

*PRESIDENT'S CHAMPION MEDAL for best Pony.*

- No. 615 C. F. Kenyon, Ewloe Hall Stud, Buckley, near Chester, "Bricket Fusilier" (13,509).

*Reserve*—No. 617 J. Ernest Kerr of Harviestoun, Dollar, Mare, "Harviestoun Vera" (24,965).

**CLASS 76. STALLION**, 3 years old and upwards, 14 hands and under—*in hand*.—Premiums, £5, £3, and £2.

- 1st No. 615 C. F. Kenyon, Ewloe Hall Stud, Buckley, near Chester, "Bricket Fusilier" (13,509).  
2nd No. 616 Neil M. Shaw, Commercial Hotel, Portpatrick, "Baron Shaw" (13,823).

**CLASS 77. YELD MARE, FILLY, or GELDING**, 3 years old and upwards, over 13 and not over 14 hands—*in saddle*.—Premiums, £5, £3, and £2.

- 1st No. 617 J. Ernest Kerr of Harviestoun, Dollar, Mare, "Harviestoun Vera" (24,965).

**CLASS 78. YELD MARE, FILLY, or GELDING**, 3 years old and upwards, not over 13 hands—*in saddle*.—Premiums, £5, £3, and £2.

(*Not Forward.*)

**HIGHLAND PONIES.**

*PRESIDENT'S CHAMPION MEDAL for best Highland Pony.*

- No. 619. The Marquis of Graham, C.B., Brodick Castle, Isle of Arran, "Glenbernsdale" (891).

*Reserve*—No. 628 The Duke of Atholl, K.T., Blair Castle, Blair-Atholl, "Ben Odhar."

Special Prize of £10 for the best Highland Stallion, Mare, Colt, or Filly, entered or accepted for entry in the Highland Section of the National Pony Stud-Book, "*Extra Stock*" being eligible to compete, given by the National Pony Society.

- No. 619. The Marquis of Graham, C.B., Brodick Castle, Isle of Arran, "Glenbernsdale" (891).

**CLASS 79. STALLION**, 3 years old or upwards, not exceeding 14.2 Hands.—Premiums, £8, £4, and £2.

(No Entry).

*EXTRA STOCK.*

The following was Very Highly Commended, and a Silver Medal awarded :—

- No. 619 The Marquis of Graham, C.B., Brodick Castle, Isle of Arran, "Glenbernsdale" (891).

**CLASS 80. MARE, 3 years old or upwards, not exceeding 14.2 Hands, Yeld or with Foal at foot.—Premiums, £8, £4, and £2.**

- 1st No. 624 Hugh Morrison, M.P., of Islay, Islay House, Bridgend, Islay, "Mairearad" (8123).  
 2nd No. 626 J. Moncrieff Wright, Kinmonth, Bridge of Earn, "Isla Ormiston" (4041).  
 3rd No. 627 J. Moncrieff Wright, Kinmonth, Bridge of Earn, "Lona of Coulshill" (3773).  
 V No. 622 Donald Mackelvie, New Lanark, Lamlash, "Killbride" (4137).  
 H No. 621 James M. Cairns, Ollaberry House, Blackford, Perthshire, "Glenmorangie."  
 C No. 620 The Duke of Atholl, K.T., Blair Castle, Blair-Atholl, "Grisiounn."  
 C No. 625 John Robson, jun., Lynegar, Watten, Caithness, "Norna" (4229).

**CLASS 81. ENTIRE COLT, foaled after 1st January 1920.—Premiums, £6, £4, and £2.**

- 1st No. 628 The Duke of Atholl, K.T., Blair Castle, Blair-Atholl, "Ben Odhar."  
 2nd No. 629 Alexander Cowan of Loganhouse, Valleyfield, Penicuik, "Logan Pioneer."  
 3rd No. 630 Charles D. M. Ross, The Ibert, Crieff, "Uistach" (1062).

**CLASS 82. FILLY, foaled after 1st January 1920.—Premiums, £6, £4, and £2.**

- 1st No. 634 The Marquis of Graham, C.B., Brodick Castle, Isle of Arran, "Isle of Arran Bonnie Jean."  
 2nd No. 633 James M. Cairns, Ollaberry House, Blackford, Perthshire, "Calliach Bhan V."  
 3rd No. 632 James M. Cairns, Ollaberry House, Blackford, Perthshire, "Ribhinn Oig."  
 V No. 636 J. Moncrieff Wright, Kinmonth, Bridge of Earn, "Maisie of Kinmonth."  
 H No. 631 James M. Cairns, Ollaberry House, Blackford, Perthshire, "Silver Star."  
 C No. 635 Donald Mackelvie, New Lanark, Lamlash, "Glenree."

## WESTERN ISLAND PONIES.

*PRESIDENT'S CHAMPION MEDAL for best Western Island Pony.*

- No. 638 Donald Mackelvie, New Lanark, Lamlash, "Glenscorrodale" (838).  
*Reserve*—No. 641 David M'Cowan, Monzie Castle, Crieff, "The Witch of Monzie" (4249).

*Special Prize of £10 for the best Western Island Stallion, Mare, Colt, or Filly, entered or accepted for entry in the Highland Section of the National Pony Stud-Book, "Extra Stock" being eligible to compete, given by the National Pony Society.*

- No. 638 Donald Mackelvie, New Lanark, Lamlash, "Glenscorrodale" (838).

**CLASS 83. STALLION, 3 years old or upwards, not exceeding 14.2 Hands.—Premiums, £8, £4, and £2.**

- 1st No. 638 Donald Mackelvie, New Lanark, Lamlash, "Glenscorrodale" (838).  
 2nd No. 639 Major Hugh M. Mackenzie, Newton Rigg, Penrith, "White Heather" (1004).  
 3rd No. 637 Allan J. Bowie, Thrushcraig, Paisley, "Lord of the Isles" (999).

**CLASS 84. MARE, 3 years old or upwards, not exceeding 14.2 Hands, Yeld or with Foal at foot.—Premiums, £8, 4, and £2.**

- 1st No. 641 David M'Cowan, Monzie Castle, Crieff, "The Wite of Monzie" (4249).  
 2nd No. 642 Mrs H. M. Mackenzie, Newton Rigg, Penrith, "Cairna Burgh" (3824).  
 3rd No. 640 Miss Margaret Henderson, Chisholm, Hawick, "Sally II." (4248).

CLASS 85. ENTIRE COLT, foaled after 1st January 1920.—Premiums, £6, £4, and £2.

- 1st No. 644 Charles D. M. Ross, The Ibert, Crieff, "Morenish."  
2nd No. 643 J. H. Munro Mackenzie, Calgary, Isle of Mull, "Spton Mhor" (1046).

CLASS 86. FILLY, foaled after 1st January 1920.—Premiums, £6, £4, and £2.

- 1st No. 647 Donald Mackelvie, New Lanark, Lamlash, "Glen Rosa."  
2nd No. 645 James M. Cairns, Ollaberry House, Blackford, Perthshire, "Margie."  
3rd No. 648 J. H. Munro Mackenzie, Calgary, Isle of Mull, "Erraid" (4262).  
V No. 646 The Marquis of Graham, C.B., Brodick Castle, Isle of Arran, "Isle of Arran Seonagh."

## SHETLAND PONIES.

(ALL SHOWN IN HAND.)

*PRESIDENT'S CHAMPION MEDAL for best Shetland Pony.*

- No. 662 Mrs Etta Duffus, Penniwells, Elstree, Herts, "Maydew of Penniwells" (33,417).

*Reserve*—No. 655 Mrs Etta Duffus, Penniwells, Elstree, Herts, "Huzzoor of Penniwells" (864).

*Silver Medal for the best Shetland Pony of the sex opposite to that of the winner of the President's Champion Medal, entered or eligible for entry in the Shetland Pony Stud-Book, given by the Shetland Pony Stud-Book Society.*

- No. 655 Mrs Etta Duffus, Penniwells, Elstree, Herts, "Huzzoor of Penniwells" (864).

CLASS 87. STALLION, not exceeding 10½ hands, foaled before 1919.—Premiums, £8, £6, £3, and £2.

- 1st No. 652 William Mungall of Transy, Dunfermline, "Pat of Transy" (776).  
2nd No. 651 R. W. R. Mackenzie, Earlsall, Leuchars, "Why Not of Earlsall" (898).  
3rd No. 649 James Blount, Cullivait, Dumfries, "Glory Boy" (705).  
4th No. 650 R. W. R. Mackenzie, Earlsall, Leuchars, "Bell Metal of Earlsall."

## EXTRA STOCK.

The following was Very Highly Commended, and a Silver Medal awarded :—

- No. 655 Mrs Etta Duffus, Penniwells, Elstree, Herts, "Huzzoor of Penniwells" (864).

CLASS 88. ENTIRE COLT not exceeding 10½ hands, foaled in 1919 or 1920.—Premiums, £8, £5, £3, and £2.

- 1st No. 658 Mrs Etta Duffus, Penniwells, Elstree, Herts, "Dibblitz of Penniwells."  
2nd No. 659 R. W. R. Mackenzie, Earlsall, Leuchars, "Bright Light of Earlsall."  
3rd No. 656 Charles Douglas, D.Sc., C.B., of Auchlochan, Lesmahagow, "Pasha of Auchlochan."  
4th No. 660 Marion F. Watson, Carliebog, Strathaven, "Brigadier of Blantyre."

*Shetland Pony Foal, entered or eligible for entry in the Stud-Book, exhibited along with Dam in Class 89.*—Premiums, £5, £3, and £2, given by "Four Lovers of the Breed," per Mr W. Mungall of Transy.

- 1st No. 662 Mrs Etta Duffus, Penniwells, Elstree, Herts, "Maydew of Penniwells" (33,417).  
2nd No. 665 William Mungall of Transy, Dunfermline, "Sophie of Transy."  
3rd No. 661 James Blount, Cullivait, Dumfries, "Mathilda."

**CLASS 89. MARE, not exceeding 10½ hands, with Foal at foot.—**  
 Premiums, £8, £5, £3, and £2.

- 1st No. 662 Mrs Etta Duffus, Penniwells, Elstree, Herts, "Maydew of Penniwells" (33,417).  
 2nd No. 664 R. W. R. Mackenzie, Earlshall, Leuchars, "Ruby of Earlshall" (3733).  
 3rd No. 665 William Mungall of Transy, Dunfermline, "Sophie of Transy."  
 4th No. 661 James Blount, Cullivait, Dumfries, "Mathilda."

**CLASS 90. YELD MARE, not exceeding 10½ hands.—**  
 Premiums, £8, £5, £3, and £2.

- 1st No. 669 Mrs Etta Duffus, Penniwells, Elstree, Herts, "Mayfair of Penniwells."  
 2nd No. 671 J. Ernest Kerr of Harviestoun, Dollar, "Snowdon 2nd" (2947).  
 3rd No. 675 Mrs A. C. Robertson, Sandhills, Monkton, Ayrshire, "Bragela of Mondynes."  
 4th No. 668 Charles Douglas, D.Sc., C.B., of Auchlochan, Lesmahagow, "Faithful of Auchlochan."  
 V No. 673 William Mungall of Transy, Dunfermline, "Thistledown of Transy."  
 H No. 667 Charles Douglas, D.Sc., C.B., of Auchlochan, Lesmahagow, "Vassa Beauty."  
 C No. 674 William Mungall of Transy, Dunfermline, "Beryl of Transy."

**CLASS 91. FILLY, not exceeding 10½ hands, foaled in 1919 or 1920.—**  
 Premiums, £8, £5, £3, and £2.

- 1st No. 682 J. Ernest Kerr of Harviestoun, Dollar, "Harviestoun Sweetheart."  
 2nd No. 681 Mrs Etta Duffus, Penniwells, Elstree, Herts, "May Eve of Penniwells."  
 3rd No. 683 R. W. R. Mackenzie, Earlshall, Leuchars, "Diligence of Earlshall."  
 4th No. 678 Charles Douglas, D.Sc., C.B., of Auchlochan, Lesmahagow, "Ebony of Auchlochan."  
 C No. 684 William Mungall of Transy, Dunfermline, "Silver Blossom of Transy."

## HORSES IN HARNESS.

*PRESIDENT'S CHAMPION MEDAL for best animal in the Classes for Horses in Harness.*

- No. 688 William S. Miller, Balmanno Castle, Bridge of Earn, Perthshire, Gelding, "Gondolier."  
*Reserve*—No. 694 William S. Miller, Balmanno Castle, Bridge of Earn, Perthshire, Gelding, "Lochardil."

**CLASS 92. YELD MARE, FILLY, or GELDING, any age, in Harness, 15 hands and upwards, to be driven in the ring.—**Premiums, £10, £5, and £3.

- 1st No. 688 William S. Miller, Balmanno Castle, Bridge of Earn, Perthshire, Gelding, "Gondolier."  
 2nd No. 686 John Highet, Wardhead, Stewarton, Gelding, "Kentmere King" (G190).  
 3rd No. 687 J. Ernest Kerr of Harviestoun, Dollar, Mare, "Merry Crompton" (23,681).  
 V No. 689 Robert Scott, Thornhome, Carlisle, Lanarkshire, Mare, "Dunelr" (22,482).

Special Prize of £5 for best Pony in Class 93, under 13 hands.

(No Entry.)

CLASS 93. YELD MARE, FILLY, or GELDING, any age, in Harness, under 15 hands, to be driven in the ring.—Premiums, £10, £5, and £3.

- 1st No. 694 William S. Miller, Balmanno Castle, Bridge of Earn, Perthshire, Gelding, "Lochardil."  
 2nd No. 691 John Highet, Wardhead, Stewarton, Mare, "No Trumps" (23,699).  
 3rd No. 614 John M. McNeillie, Hightownhead, Dalswinton, Kirkmahoe, Dumfries, Mare, "Lady Stobo" (23,646).

## JUMPING COMPETITIONS.

Champion Prize of £10 for the most points in Prizes with one or more Horses in Classes 1, 2, and 3.

CONDITIONS.—First Prize to count five points; Second Prize, four points; Third Prize, three points; Fourth Prize, two points; Fifth Prize, one point—the money to be evenly divided in the event of a tie.

Frank Allison, Newbiggin, Penrith, Mare, "Temptress."

*Wednesday, 19th July.*

CLASS 1. HORSE or PONY, any height.—Premiums, £20, £15, £10, £5, and £3.

- 1st Frank Allison, Newbiggin, Penrith, Mare, "Temptress."  
 2nd Joseph Taylor, Moss Hall, Stretton, near Warrington, "Jimmy."  
 3rd David Mc'Gee, Bridge Street Grain Mills, Paisley, Gelding, "Blue Mask."  
 4th Ernest Bradley, Newton Grange, Great Ayton, Gelding, "Spider."  
 5th Ernest Bradley, Newton Grange, Great Ayton, Mare, "Blue Bell."

*Thursday, 20th July.*

CLASS 2. HORSE or PONY, any height, Handicap, hurdles and gate being raised 8 inches for the winner of the first prize, and 4 inches for the winner of the second prize in Class 1.—Premiums, £10, £8, £5, £3, and £2.

- 1st Frank Allison, Newbiggin, Penrith, Mare, "Temptress."  
 2nd Ernest Bradley, Newton Grange, Great Ayton, Mare, "Kitty."  
 3rd Joseph Taylor, Moss Hall, Stretton, near Warrington, "Battle Axe."  
 4th Miss Gladys Traill, Aberdeen, Gelding, "Aviator."  
 5th Joseph Taylor, Moss Hall, Stretton, near Warrington, "Jimmy."

*Friday, 21st July.*

CLASS 3. HORSE or PONY, any height, Handicap, hurdles and gate being raised 8 inches for the winner of the first prize, and 4 inches for the winner of the second prize in either of Classes 1 or 2—4 inches extra for the winner of the two first prizes in Classes 1 and 2.—Premiums, £10, £8, £5, £3, and £2.

- 1st Frank Allison, Newbiggin, Penrith, Mare, "Temptress."  
 2nd Master Louis Ross, Northern Riding Academy, Edinburgh, Gelding, "Northern Star."  
 3rd Miss Gladys Traill, Aberdeen, Gelding, "Aviator."  
 4th David Mc'Gee, Bridge Street Grain Mills, Paisley, Gelding, "Blue Mask."  
 5th Joseph Taylor, Moss Hall, Stretton, near Warrington, "Battle Axe."

*Thursday Evening, 20th July.*

CLASS 4. HORSE or PONY, any height.—Premiums, £10, £8, £5, £3, and £2.

- 1st Frank Allison, Newbiggin, Penrith, Mare, "Temptress."  
 2nd Ernest Bradley, Newton Grange, Great Ayton, Mare, "Kitty."  
 3rd Joseph Taylor, Moss Hall, Stretton, near Warrington, "Jimmy."  
 4th } Joseph Taylor, Moss Hall, Stretton, near Warrington, "Battle Axe."  
 5th } M. C. Wellburn, Tockwith, York, Gelding, "Swallow."

**SHEEP.****BLACKFACE.****PRESIDENT'S CHAMPION MEDAL** for best animal of Blackface breed.

No. 699 Charles Cadzow, Weston, Dunsyre.

*Reserve*—No. 718 M. G. Hamilton, Woolfords, Cobbinshaw.

*TUP, entered in Classes 94, 95, and 96, carrying the fleece best adapted for protection, combined with suitability for manufacturing purposes.*—Premiums, £5, £3, and £2.

No. 725 William Mitchell, Hazelside, Douglas.

No. 737 Alexander Cowan of Loganhouse, Valleyfield, Penicuik.

No. 729 Andrew Semple, Rosebank, Midcalder.

**CLASS 94. TUP, above one Shear.**—Premiums, £12, £8, £4, and £2.

1st No. 699 Charles Cadzow, Weston, Dunsyre.

2nd No. 705 William Mitchell, Hazelside, Douglas, "Borland."

3rd No. 702 M. G. Hamilton, Woolfords, Cobbinshaw.

4th No. 701 Gavin Hamilton, South Cumberhead, Coalburn.

V No. 704 Messrs Macmillan, Glencrosh, Moniaive, "Music Hall."

H No. 703 M. G. Hamilton, Woolfords, Cobbinshaw.

C No. 696 W. W. Anderson, Colzium, Kirknewton.

**CLASS 95. SHEARLING TUP.**—Premiums, £12, £8, £4, and £2.

1st No. 718 M. G. Hamilton, Woolfords, Cobbinshaw.

2nd No. 717 James Clark, Crossflatt, Muirkirk, "Sir Charles."

3rd No. 714 Charles Cadzow, Weston, Dunsyre.

4th No. 712 Charles Cadzow, Weston, Dunsyre.

V No. 722 M. G. Hamilton, Woolfords, Cobbinshaw.

H No. 710 Major Alexander Browne, Callaly Castle, Whittingham, Northumberland, "England's Glory."

C No. 719 M. G. Hamilton, Woolfords, Cobbinshaw.

**CLASS 96. SHEARING TUP**, which shall have been entirely out-wintered, and which shall not have been clipped *before* 1st May, 1922.—Premiums, £12, £8, £4, and £2.

1st No. 743 William Mitchell, Hazelside, Douglas.

2nd No. 745 Octavius Monkhouse, Cowshill, Wearhead, Co. Durham.

3rd No. 735 Alexander Cowan of Loganhouse, Valleyfield, Penicuik.

4th No. 730 W. W. Anderson, Colzium, Kirknewton.

V No. 737 Alexander Cowan of Loganhouse, Valleyfield, Penicuik.

H No. 734 Alexander Cowan of Loganhouse, Valleyfield, Penicuik.

C No. 744 William Mitchell, Hazelside, Douglas.

**CLASS 97. EWE, above one Shear, with her Lamb at foot.**—Premiums, £10, £5, and £2.

1st No. 750 The Earl of Ancaster, Corrychrone, Callander, "Corrychrone Queen."

2nd No. 751 William Anderson, Craigends, Fenwick, Kilmarnock, "Irene."

3rd No. 756 Andrew Semple, Rosebank, Midcalder, "Rosebud."

V No. 752 James Bell, Auchengray, Carnwath, "Auchengray Queen."

H No. 754 Octavius Monkhouse, Cowshill, Wearhead, Co. Durham.

C No. 753 Messrs Macmillan, Glencrosh, Moniaive.

C No. 755 John Robson, Newton, Bellingham.

**CLASS 98. SHEARLING EWE or GIMMER.**—Premiums, £10, £5, and £2.

- 1st No. 761 John Robson, Newton, Bellingham.  
 2nd No. 762 Andrew Semple, Rosebank, Midcalder.  
 3rd No. 758 Octavius Monkhouse, Cowshill, Wearhead, Co. Durham.  
 V No. 757 A. W. Howison, Rannagulzeon, Blairgowrie.

**CLASS 99. EWE and LAMB, unclipped, taken off the hill not earlier than 1st June, and not hand-fed or kept enclosed on low ground before that date—judged for wool and breed type.**—Premiums, £10, £5, and £2, contributed per Dr F. A. E. Crew, Animal Breeding Research Department, University of Edinburgh.

- 1st No. 763 W. W. Anderson, Colzium, Kirknewton.  
 2nd No. 767 Messrs Macmillan, Glencrosh, Moniaive.  
 3rd No. 765 Thomas W. H. M'Dougal, Overshiels, Stow, Mid-Lothian.  
 V No. 766 Thomas W. H. M'Dougal, Overshiels, Stow, Mid-Lothian.

**CLASS 100. Special Prizes of £5, £3, and £2, for BLACKFACE TUP LAMB, bred by Exhibitor—given by Major Alexander Browne of Callaly Castle.**

- 1st No. 769 William Anderson, Craigends, Fenwick, Kilmarnock.  
 2nd No. 773 Charles Cadzow, Weston, Dunsyre.  
 3rd No. 770 William Anderson, Craigends, Fenwick, Kilmarnock.  
 V No. 771 W. W. Anderson, Colzium, Kirknewton.  
 H No. 776 Octavius Monkhouse, Cowshill, Wearhead, Co. Durham.  
 C No. 772 W. W. Anderson, Colzium, Kirknewton.

**CHEVIOT.****PRESIDENT'S CHAMPION MEDAL for best animal of the Cheviot breed.**

- No. 789 William Hogg, Newlands, Gifford, and John Robson, jun., Lynegar, Watten, Caithness, "Millknowe Victory" (3189).

*Reserve*—No. 812 J. W. Aitchison, Linhope, Hawick.

Paisley Perpetual Gold Challenge Cup, value £300, for best animal of the Cheviot Breed, "*Extra Stock*" being eligible to compete. This Cup along with an endowment of £600 was provided from money collected in Paisley by the late Provost Muir MacKean, and is in commemoration of the Society's first Show at Paisley in 1913.

- No. 789 William Hogg, Newlands, Gifford, and John Robson, jun., Lynegar, Watten, Caithness, "Millknowe Victory" (3189).

*Reserve*—No. 812 J. W. Aitchison, Linhope, Hawick.

Perpetual Challenge Cup, value £25, gifted by Mr J. Borthwick, for best Sheep in the Cheviot Classes—given by Cheviot Sheep Society.

- No. 789 William Hogg, Newlands, Gifford, and John Robson, jun., Lynegar, Watten, Caithness, "Millknowe Victory" (3189).

**CLASS 101. TUP, above one Shear.**—Premiums, £12, £8, £4, and £2.

- 1st No. 789 William Hogg, Newlands, Gifford, and John Robson, jun., Lynegar, Watten, Caithness, "Millknowe Victory" (3189).  
 2nd No. 783 Walter S. Douglas, Hindhope, Jedburgh, "Royal Review."  
 3rd No. 779 John S. Dickson, Flemington, Dolphinton.  
 4th No. 784 Arthur Elliot, Hindhope, Jedburgh.  
 V No. 786 Robert T. Elliot, Chatto, Kelso.  
 H No. 782 Walter S. Douglas, Hindhope, Jedburgh, "Security."  
 C No. 778 J. W. Aitchison, Linhope, Hawick.

**CLASS 102. SHEARLING TUP.**—Premiums, £12, £8, £4, and £2.

- 1st No. 799 John Elliot, jun., Blackhaugh, Clovenfords.  
 2nd No. 808 John Robson, Millknowe, Duns.  
 3rd No. 796 Walter S. Douglas, Hindhope, Jedburgh.  
 4th No. 798 J. W. Aitchison, Lindhope, Hawick.  
 V No. 807 John Robson, Newton, Bellingham, "Paragon."  
 H No. 798 Arthur Elliot, Hindhope, Jedburgh.  
 C No. 803 Robert T. Elliot, Chatto, Kelso.

**CLASS 103. EWE, above one Shear, with her Lamb at foot.**—  
Premiums, £10, £5, and £2.

- 1st No. 812 J. W. Aitchison, Linhope, Hawick.  
 2nd No. 819 William Hogg, Newlands, Gifford.  
 3rd No. 820 John Robson, Millknowe, Duns.  
 V No. 821 Messrs Thomson, Bushelhill, Cockburnspath, "Lady Graceful."  
 H No. 813 John S. Dickson, Flemington, Dolphinton.  
 C No. 814 Arthur Elliot, Hindhope, Jedburgh.

**CLASS 104. SHEARLING EWE or GIMMER.**—Premiums, £10, £5, and £2.

- 1st No. 822 J. W. Aitchison, Linhope, Hawick.  
 2nd No. 829 John Elliot, jun., Blackhaugh, Clovenfords.  
 3rd No. 835 Simon Rutherford, Allanhaugh, Hawick.  
 V No. 825 Walter S. Douglas, Hindhope, Jedburgh.  
 H No. 832 William Hogg, Newlands, Gifford.  
 C No. 830 John Elliot, jun., Blackhaugh, Clovenfords.

**BORDER LEICESTER.****PRESIDENT'S CHAMPION MEDAL** for best animal of Border Leicester breed.

No. 915 Alexander Niven, Ayton, Newburgh-on-Tay (125).

Reserve—No. 853 R. & W. B. Dickinson, Longcroft, Oxton, Berwickshire.

Tweeddale Gold Medal for best Border Leicester Tup—Annual Free Income from Fund of £500.

No. 853 R. & W. B. Dickinson, Longcroft, Oxton, Berwickshire.

Gold Medal for best male animal in the Border Leicester Classes, registered or eligible for registration in the Border Leicester Flock-Book. Animals entered as "Extra Stock" not eligible. Given by the Society of Border Leicester Sheep-Breeders.

No. 853 R. & W. B. Dickinson, Longcroft, Oxton, Berwickshire.

**CLASS 105. TUP, above one Shear.**—Premiums, £12, £8, £4, and £2.

- 1st No. 843 R. G. Murray & Son, Spittal, Biggar, "Unanimous" (5875).  
 2nd No. 841 W. Gilchrist Macbeth, Dunira, Comrie, "Bold Sandyknowe" (5642).  
 3rd No. 842 William Cairns Moyes, Renmure, Inverkeilor, Montrose, "Renmure Select" (5816).  
 4th No. 838 Thomas Armstrong, Eastcote, Hawick, "Ashybank Activity" (5330).  
 H No. 839 Thomas Armstrong, Eastcote, Hawick, "Gallant Low Hedgeley" (5719).  
 C No. 840 The Earl of Balfour, Whittingehame, Prestonkirk, "Viking II." (5010).

**CLASS 106. SHEARLING TUP.**—Premiums, £12, £8, £4, and £2.

- 1st No. 853 R. & W. B. Dickinson, Longcroft, Oxton, Berwickshire.  
 2nd No. 873 William R. Ross, Culloden, Inverness.  
 3rd No. 875 William R. Ross, Culloden, Inverness.  
 4th No. 863 Andrew M. Montgomery of Nether Hall, Castle-Douglas.  
 V No. 852 R. & W. B. Dickinson, Longcroft, Oxton, Berwickshire.  
 H No. 860 John Kinnaird, Newmains, Stenton, Prestonkirk (179).  
 C No. 861 W. Gilchrist Macbeth, Dunira, Comrie, "X 16."



Gold Medal for best female animal in the Border Leicester Classes, registered or eligible for registration in the Border Leicester Flock-Book. Animals entered as "Extra Stock" not eligible. Given by the Society of Border Leicester Sheep-Breeders.

No. 915 Alexander Niven, Ayton, Newburgh-on-Tay (125).

CLASS 107. EWE, above one Shear.—Premiums, £10, £5, and £2.

- 1st No. 890 W. Gilchrist Macbeth, Dunira, Comrie, "T 6."
- 2nd No. 895 Alexander Niven, Ayton, Newburgh (125).
- 3rd No. 891 W. Gilchrist Macbeth, Dunira, Comrie, "U 4."
- V No. 892 William Cairns Moyes, Renmure, Inverkeilor, Montrose, "U 46."
- H No. 889 R. & W. B. Dickinson, Longcroft, Oxtou, Berwickshire.
- C No. 886 The Earl of Balfour, Whittingehame, Prestonkirk.

CLASS 108. SHEARLING EWE or GIMMER.—Premiums, £10, £5, and £2.

- 1st No. 915 Alexander Niven, Ayton, Newburgh-on-Tay (125).
- 2nd No. 897 The Earl of Balfour, Whittingehame, Prestonkirk.
- 3rd No. 905 W. Gilchrist Macbeth, Dunira, Comrie, "X 8."
- V No. 913 R. G. Murray & Son, Spittal, Biggar.
- H No. 917 William R. Ross, Culloden, Inverness.
- C No. 918 William R. Ross, Culloden, Inverness.

### HALF-BRED.

PRESIDENT'S CHAMPION MEDAL for best Half-Bred Animal.

No. 929 William Hogg, Newlands, Gifford.

Reserve—No. 939 W. & J. Dow, Brotherstone, St Boswells.

CLASS 109. TUP, above one Shear.—Premiums, £10, £7, and £3.

- 1st No. 923 Mrs A. E. Burdon, Wooperton Farm, Wooperton, Northumberland.
- 2nd No. 924 George C. Cowans, High Town, Longframlington, Northumberland.

CLASS 110. SHEARLING TUP.—Premiums, £10, £7, and £3.

- 1st No. 929 William Hogg, Newlands, Gifford.
- 2nd No. 925 Thomas Armstrong, East Cote, Hawick.
- 3rd No. 930 William Hogg, Newlands, Gifford.
- V No. 927 George C. Cowans, High Town, Longframlington, Northumberland.
- H No. 926 Thomas Armstrong, East Cote, Hawick.
- C No. 928 George C. Cowans, High Town, Longframlington, Northumberland.

CLASS 111. EWE, above one Shear.—Premiums, £10, £5, and £2.

- 1st No. 936 John Stewart, Saughland, Tynehead.
- 2nd No. 933 Mrs A. E. Burdon, Wooperton Farm, Wooperton, Northumberland.
- 3rd No. 934 Mrs A. E. Burdon, Wooperton Farm, Wooperton, Northumberland.

CLASS 112. SHEARLING EWE or GIMMER.—Premiums, £10, £5, and £2.

- 1st No. 939 W. & J. Dow, Brotherstone, St Boswells.
- 2nd No. 940 W. & J. Dow, Brotherstone, St Boswells.
- 3rd No. 941 John Stewart, Saughland, Tynehead.
- V No. 937 Mrs A. E. Burdon, Wooperton Farm, Wooperton, Northumberland.
- H No. 938 Mrs A. E. Burdon, Wooperton Farm, Wooperton, Northumberland.

CLASS 113. THREE EWE LAMBS.—Premiums, £5, £3, and £2.

- 1st No. 943 Mrs A. E. Burdon, Wooperton Farm, Wooperton, Northumberland.
- 2nd No. 942 Thomas Armstrong Eastcote, Hawick.
- 3rd No. 947 David H. Williamson, Sypland, Kirkcudbright.
- V No. 944 W. & J. Dow, Brotherstone, St Boswells.
- H No. 946 David H. Williamson, Sypland, Kirkcudbright.

## OXFORD-DOWN.

*PRESIDENT'S CHAMPION MEDAL for best Oxford-Down Animal.*

No. 958 Thomas & Matthew Templeton, Sandyknowe, Kelso.

*Reserve*—No. 973 Thomas & Matthew Templeton, Sandyknowe, Kelso.

Roberton Challenge Cup, value £50, for the best Oxford Down animal bred in Scotland—given by Oxford Down Sheep Breeders' Association.

No. 958 Thomas & Matthew Templeton, Sandyknowe, Kelso.

## CLASS 114. SHEARLING TUP.—Premiums, £8, £5, and £3.

1st No. 958 Thomas & Matthew Templeton, Sandyknowe, Kelso.

2nd No. 948 Robert Graham, Kaimflat, Kelso.

3rd No. 960 Thomas & Matthew Templeton, Sandyknowe, Kelso.

V No. 957 John Robertson, Ladyrig, Kelso (343).

H No. 950 Robert Graham, Kaimflat, Kelso.

C No. 959 Thomas & Matthew Templeton, Sandyknowe, Kelso.

## CLASS 115. SHEARLING EWE or GIMMER.—Premiums, £8, £5, and £3.

1st No. 973 Thomas & Matthew Templeton, Sandyknowe, Kelso.

2nd No. 963 Robert Graham, Kaimflat, Kelso.

3rd No. 972 Thomas & Matthew Templeton, Sandyknowe, Kelso.

V No. 971 Thomas & Matthew Templeton, Sandyknowe, Kelso.

H No. 968 William T. Malcolm, Whittingehame Mains, Prestonkirk.

C No. 964 Robert Graham, Kaimflat, Kelso.

## CLASS 116. TUP LAMB.—Premiums, £8, £5, and £3.

1st No. 982 Thomas & Matthew Templeton, Sandyknowe, Kelso.

2nd No. 980 John Robertson, Ladyrig, Kelso (343).

3rd No. 983 Thomas & Matthew Templeton, Sandyknowe, Kelso.

V No. 979 William T. Malcolm, Whittingehame Mains, Prestonkirk.

H No. 975 William Harrison, Bell Mount, Penrith.

C No. 976 William Harrison, Bell Mount, Penrith.

## CLASS 117. THREE EWE LAMBS.—Premiums, £8, £5, and £2.

1st No. 989 Thomas & Matthew Templeton, Sandyknowe, Kelso.

2nd No. 985 William Harrison, Bell Mount, Penrith.

3rd No. 987 William T. Malcolm, Whittingehame Mains, Prestonkirk.

V No. 988 John Robertson, Ladyrig, Kelso (343).

## SUFFOLK.

*PRESIDENT'S CHAMPION MEDAL for best Suffolk Sheep.*

No. 1015 G. Bertram Shields, Dolphingstone, Tranent.

*Reserve*—No. 1023 G. Bertram Shields, Dolphingstone, Tranent.

Special Prizes of £7, 7s. and £3, 3s. for best and second best group comprising Tup, Ewe, Tup Lamb, and Ewe Lamb entered in Classes 118, 119, 120, and 121, all to be registered or eligible for registration in Flock Book, and, with the exception of the Shearling Tup, bred in Scotland by Exhibitor—given by Mr Dugald M'Kechnie, Glasgow.

1st—Mrs M. W. Hogarth, Galalaw, Kelso, 993, 999, 1011, 1020.

2nd—Lieut.-Colonel Charles Brook of Kinmount, Annan, 991, 996, 1007, 1017.

**CLASS 118. SHEARLING TUP.**—Premiums, £8, £5, and £3.

- 1st No. 991 Lieut.-Colonel Charles Brook of Kinmount, Annan, "Victory."  
 2nd No. 993 Mrs M. W. Hogarth, Galalaw, Kelso, "Kirtion Victor" (16,693).  
 3rd No. 990 Samuel Barr, Nottylees, Kelso.

**CLASS 119. SHEARLING EWE or GIMMER.**—Premiums, £8, £5, and £3.

- 1st No. 1004 G. Bertram Shields, Dolphingstone, Tranent.  
 2nd No. 1002 F. H. Sanderson, Eshott Home Farm, Felton, Northumberland.  
 3rd No. 999 Mrs M. W. Hogarth, Galalaw, Kelso.  
 V No. 1000 Mrs M. W. Hogarth, Galalaw, Kelso.  
 H No. 998 John Bryce Duncan, Newlands, Dumfries.  
 C No. 996 Lieut.-Col. Charles Brook of Kinmount, Annan.

**CLASS 120. TUP LAMB.**—Premiums, £8, £5, and £3.

- 1st No. 1015 G. Bertram Shields, Dolphingstone, Tranent.  
 2nd No. 1014 G. Bertram Shields, Dolphingstone, Tranent.  
 3rd No. 1011 Mrs M. W. Hogarth, Galalaw, Kelso, "T 17."  
 V No. 1008 John Bryce Duncan, Newlands, Dumfries.  
 H No. 1007 Lieut.-Col. Charles Brook of Kinmount, Annan (822).  
 C No. 1009 John Bryce Duncan, Newlands, Dumfries.

**CLASS 121. THREE EWE LAMBS.**—Premiums, £8, £5, and £2.

- 1st No. 1023 G. Bertram Shields, Dolphingstone, Tranent.  
 2nd No. 1022 F. H. Sanderson, Eshott Home Farm, Felton, Northumberland.  
 3rd No. 1019 William Golightly, Whitelaw, Haddington.  
 V No. 1020 Mrs M. W. Hogarth, Galalaw, Kelso.  
 H No. 1017 Lieut.-Colonel Charles Brook of Kinmount, Annan (822).  
 C No. 1018 John Bryce Duncan, Newlands, Dumfries.

**SHROPSHIRE.****PRESIDENT'S CHAMPION MEDAL** for best Shropshire Animal.

No. 1024 Thomas A. Buttar, Corston, Coupar-Angus.

*Reserve*—No. 1027 Thomas A. Buttar, Corston, Coupar-Angus.

**CLASS 122. SHEARLING TUP.**—Premiums, £6, £4, and £2.

- 1st No. 1024 Thomas A. Buttar, Corston, Coupar-Angus.  
 2nd No. 1026 Thomas A. Buttar, Corston, Coupar-Angus.  
 3rd No. 1025 Thomas A. Buttar, Corston, Coupar-Angus.

**CLASS 123. SHEARLING EWE or GIMMER.**—Premiums, £5, £3, and £2.

- 1st No. 1027 Thomas A. Buttar, Corston, Coupar-Angus.  
 2nd No. 1029 Thomas A. Buttar, Corston, Coupar-Angus.  
 3rd No. 1028 Thomas A. Buttar, Corston, Coupar-Angus.

**FAT SHEEP.****CLASS 124. THREE FAT LAMBS,** any Breed or Cross, dropped in the year of the Show.—Premiums, £5, £3, and £2.

- 1st No. 1031 W. & J. Dow, Brotherstone, St Boswells (Leicester Tup and Suffolk Ewe).  
 2nd No. 1032 W. & J. Dow, Brotherstone, St Boswells (Leicester Tup and Suffolk Ewe).  
 3rd No. 1030 Lieut.-Colonel Charles Brook of Kinmount, Annan (Ryland Tup and Suffolk Ewe).  
 V No. 1033 Andrew Howat, Netherwood, Dumfries (Oxford Tup and Half-Bred Ewe).

## GOATS

## OPEN CLASSES.

*PRESIDENT'S CHAMPION MEDAL for best Animal in the Goat Classes.*

No. 1072 The Baroness Burton, Dochfour, Inverness, (Anglo-Nubian-Swiss),  
"†Dochfour Onyx" (4665).

*Reserve*—No. 1036 The Baroness Burton, Dochfour, Inverness, (British Saanen),  
"Champion Leazes Pearl \* 2 \*" (2516).

*The Competition for Goats (Classes 125 to 130) is recognised by the British Goat Society, which will give :—*

A.—Challenge Certificate (qualifying for a Championship) *for the best dual purpose Goat ;*

No. 1047 Mrs Straker, Stagshaw, Corbridge, Northumberland, (Cross-bred), "Leazes Kidstone" (2695).

B.—Bronze Medal *for the best Female exhibit in Classes 126, 127, and 129 ;*

No. 1036 The Baroness Burton, Dochfour, Inverness, (British Saanen), "Champion Leazes Pearl \* 2 \*" (2516).

C.—Bronze Medal *for the best Male exhibit in Classes 125 and 128.*

No. 1063 Mrs Reginald Pease, Sledwich, Barnard Castle, (Anglo-Nubian), "Sadberge Castle" (KR 9357), (AN 1430).

Challenge Cup, value 20 Guineas *for the best Female Goat in the Show—*  
given by Lord Dewar, London.

No. 1036 The Baroness Burton, Dochfour, Inverness, (British Saanen), "Champion Leazes Pearl \* 2 \*" (2516).

*Reserve*—No. 1060 Mrs Reginald Pease, Sledwich, Barnard Castle, (Anglo-Nubian-Swiss), "Sadberge Pochard" (4608).

Challenge Cup, value £10, *for best Female Anglo-Nubian Goat over two years old, in milk, entered in the Anglo-Nubian Section of the Herd-Book, "Extra Stock" being eligible to complete—*given by Mrs S. Macdonald, Garrochty.

No. 1046 Mrs Reginald Pease, Sledwich, Barnard Castle, (Anglo-Nubian), "Sadberge Warbler" (AN 1298).

*Reserve*—No. 1045 Mrs Reginald Pease, Sledwich, Barnard Castle, (Anglo-Nubian), "Sadberge Nightingale" (AN 1227).

CLASS 125. MALE GOAT, any Variety, over one year.—  
Premiums, £3, £2, and £1.

1st No. 1034 Mrs Reginald Pease, Sledwich, Barnard Castle, (British Alpine),  
"Atherstone Nonsense" (HB 4593).

CLASS 126. FEMALE GOAT, any Variety, over two years.—  
Premiums, £3, £2, and £1.

1st No. 1036 The Baroness Burton, Dochfour, Inverness, (British Saanen),  
"Champion Leazes Pearl \* 2 \*" (2516).

2nd No. 1047 Mrs Straker, Stagshaw, Corbridge, Northumberland, (Cross-bred),  
"Leazes Kidstone" (2965).

3rd No. 1040 Miss Marjorie Henderson, The Riding, Hexham, (Anglo-Nubian-Toggenburg), "Riding Tulip 2 \* 2 \*" (3730).

V No. 1044 Mrs Reginald Pease, Sledwich, Barnard Castle, (Anglo-Nubian-Swiss),  
"Sadberge Whooper Swan \*" (PR 2590).

H No. 1048 Mrs Straker, Stagshaw, Corbridge, Northumberland, (Cross-bred),  
"Leazes Fortuna" (3266).

C No. 1039 Miss Marjorie Henderson, The Riding, Hexham, (Toggenburg),  
"Riding Cherry 2 \*" (T 412).

**CLASS 127. GOATLING, any Variety, over one and not exceeding two years.**—Premiums, £3, £2, and £1.

- 1st No. 1060 Mrs Reginald Pease, Sledwich, Barnard Castle, (Anglo-Nubian-Swiss), "Sadberge Pochard" (4608).  
 2nd No. 1052 The Baroness Burton, Dochfour, Inverness, (British Saanen), "Dochfour Tecla" (5158).  
 3rd No. 1055 Lady Helen Graham, Buchanan Castle, Drymen, Glasgow, (Anglo-Nubian-Swiss), "Dusk of Buchanan" (4696).  
 V No. 1057 Miss Marjorie Henderson, The Riding, Hexham, (Anglo-Swiss), "Riding Hazel" (4781).  
 H No. 1053 Mrs Sydney Macdonald, Garrochty, Kingarth, Isle of Bute, (Anglo-Swiss), "Riding Constance" (HB 4699).  
 C No. 1053 Miss Crum Ewing, Strathleven, Dumbarton, (Anglo-Swiss), "Strathleven Benula" (KR 8642).

**CLASS 128. MALE KID, any Variety, not exceeding one year.**—Premiums, £3, £2, and £1.

- 1st No. 1063 Mrs Reginald Pease, Sledwich, Barnard Castle, (Anglo-Nubian), "Sadberge Castle" (KR 9357 AN 1430).  
 2nd No. 1062 Mrs Sydney Macdonald, Garrochty, Kingarth, Isle of Bute, (British Alpine), "Garrochty Briar" (KR 9821).  
 3rd No. 1061 David Adams, Auchencraig, Dumbarton, (Anglo-Nubian-Swiss), "Heggie" (KR 6932).

**CLASS 129. FEMALE KID, any Variety, not exceeding one year.**—Premiums, £3, £2, and £1.

- 1st No. 1067 Miss Marjorie Henderson, The Riding, Hexham, (British Alpine), "Riding Thistledown" (5318).  
 2nd No. 1069 Mrs Reginald Pease, Sledwich, Barnard Castle, (Anglo Nubian), "Sadberge Turnstone" (KR 9362 AN 1435).  
 3rd No. 1064 Miss Crum Ewing, Strathleven, Dumbarton, (Anglo-Swiss), "Strathleven Cougie" (5468).  
 V No. 1063 Mrs Sydney Macdonald, Garrochty, Kingarth, Isle of Bute, (Anglo-Nubian-British Alpine), "Garrochty Bramble" (KR 9467 HB 5276).  
 H No. 1070 Mrs Reginald Pease, Sledwich, Barnard Castle, (Anglo-Nubian), "Sadberge Canary" (KR 9358 AN 1431).  
 C No. 1066 Miss Marjorie Henderson, The Riding, Hexham, (British Alpine), "Riding Tunis" (5329).

**CLASS 130. MILKING COMPETITION, open to Classes 126 and 132 (animals two years and over).**—Premiums, £3, £2, and £1.

- 1st No. 1047 Mrs Straker, Stagshaw, Corbridge, Northumberland, (Cross-bred), "Leazes Kidstone" (2965).  
 2nd No. 1049 Mrs Straker, Stagshaw, Corbridge, Northumberland, (Cross-bred), "Leazes Lonely" (3878).  
 3rd No. 1044 Mrs Reginald Pease, Sledwich, Barnard Castle, (Anglo-Nubian-Swiss), "Sadberge Whooper Swan" (PR 2590).  
 V No. 1036 The Baroness Burton, Dochfour, Inverness, (British Saanen), "Champion Leazes Pearl \* 2 \*" (2516).  
 H No. 1039 Miss Marjorie Henderson, The Riding, Hexham, (Toggenburg), "Riding Cherry 2 \*" (T 412).  
 C No. 1048 Mrs Straker, Stagshaw, Corbridge, Northumberland, (Cross-bred), "Leazes Fortuna" (3266).

### CONFINED TO SCOTTISH EXHIBITORS.

**CLASS 131. MALE GOAT, any Variety, one year old and over.**—Premiums, £3, £2, and £1.

- 1st No. 1072 The Baroness Burton, Dochfour, Inverness, (Anglo-Nubian Swiss), "Dochfour Onyx" (4665).

**CLASS 132. FEMALE GOAT, in Milk, any age.**—Premiums, £3, £2, and £1.

- 1st No. 1074 Lady Helen Graham, Buchanan Castle, Drymen, Glasgow, (Anglo-Nubian-Swiss), "Upton Wendy" (KR 6155).  
 2nd No. 1073 D. Beattie, Howgill Crossing, Annan, (Anglo-Nubian-Toggenburg), "Eve of Howgill" (HB 4642).

## PIGS.

## LARGE WHITE.

*PRESIDENT'S CHAMPION MEDAL for best Large White Pig.*

No. 1108 The Earl of Rosebery, K.G., K.T., Dalmeny House, Edinburgh, "Dalmeny Meg" (58,844).

*Reserve*—1083 Chivers & Sons, Limited, Histon, Cambridge, "Histon Wonder."

Gold Medal, or cash, value £5, for the best Large White Boar in the Show—given by the National Pig-Breeders' Association.

No. 1083 Chivers & Sons, Limited, Histon, Cambridge, "Histon Wonder."

## CLASS 133. BOAR farrowed before 1921.—Premiums, £8, £4, and £2.

1st No. 1078 The Earl of Ellesmere, Worsley Hall, Worsley, near Manchester, "Tockwith Emperor 15th" (27,391).

2nd No. 1076 Chivers & Sons, Limited, Histon, Cambridge, "Spalding Kingmaker" (30,449).

3rd No. 1079 J. & C. Frame, Overinzievar Farm, Oakley, Fifeshire, "Spalding Wonder 7th" (27,223).

V No. 1077 John E. B. Cowper, Gogar Mains, Corstorphine, "Walter of Gogar" (30,791).

C No. 1081 William Tytler, Doggartland Estate, Dalry, Ayrshire, "King of Doggartland" (30,713).

## CLASS 134. BOAR farrowed in 1921.—Premiums, £8, £4, and £2.

1st No. 1083 Chivers & Sons, Limited, Histon, Cambridge, "Histon Wonder."

2nd No. 1088 The Earl of Rosebery, K.G., K.T., Dalmeny House, Edinburgh, "Leader."

3rd No. 1084 The Earl of Ellesmere, Worsley Hall, Worsley, near Manchester, "Stetchworth Kitchener 7th."

C No. 1085 J. & C. Frame, Overinzievar Farm, Fifeshire, "Broxburn Wonder."

## CLASS 135. BOAR farrowed in 1922.—Premiums, £6, £3, and £1.

1st No. 1097 The Earl of Rosebery, K.G., K.T., Dalmeny House, Edinburgh.

2nd No. 1091 The Earl of Ellesmere, Worsley Hall, Worsley, near Manchester.

3rd No. 1090 Chivers & Sons, Limited, Histon, Cambridge, "Histon Kingmaker 5th."

V No. 1096 M'Naughton Brothers, Rogerfield, Baillieston, near Glasgow, "King of Rogerfield" (Ear No. 2048).

C No. 1093 Lord Forteviot, Dupplin Castle, Perth, "Dupplin Carry on."

Gold Medal, or cash, value £5, for the best Large White Sow in the Show—given by the National Pig-Breeders' Association.

No. 1108 The Earl of Rosebery, K.G., K.T., Dalmeny House, Edinburgh, "Dalmeny Meg" (58,844).

## CLASS 136. SOW farrowed before 1921.—Premiums, £8, £4, and £2.

1st No. 1108 The Earl of Rosebery, K.G., K.T., Dalmeny House, Edinburgh, "Dalmeny Meg" (58,844).

2nd No. 1106 The Earl of Ellesmere, Worsley Hall, Worsley, near Manchester, "Mary of Stetchworth" (68,540).

3rd No. 1107 W. Hallas, Bank House Farm, Helsby, Cheshire, "Mary of Helsby 2nd" (68,534).

V No. 1104 The Earl of Ellesmere, Worsley Hall, Worsley, near Manchester, "Matchless of Stetchworth" (68,548).

C No. 1100 Chivers & Sons, Limited, Histon, Cambridge, "Histon Snowdrop 4th" (59,892).

## CLASS 137. SOW farrowed in 1921.—Premiums, £8, £4, and £2.

- 1st No. 1118 The Earl of Rosebery, K.G., K.T., Dalmeny House, Edinburgh,  
"Dalmeny Moonshine."  
2nd No. 1119 The Earl of Rosebery, K.G., K.T., Dalmeny House, Edinburgh,  
"Dalmeny Moonlight."  
3rd No. 1109 Chivers & Sons, Limited, Histon, Cambridge, "Histon Belle 37th."  
V No. 1112 The Earl of Ellesmere, Worsley Hall, Worsley, near Manchester,  
"Stetchworth Buttercup 11th."  
C No. 1113 Lord Forteviot, Dupplin Castle, Perth, "Dupplin Perfection."

## CLASS 138. SOW farrowed in 1922.—Premiums, £6, £3, and £1.

- 1st No. 1121 The Earl of Ellesmere, Worsley Hall, Worsley, near Manchester.  
2nd No. 1125 The Earl of Rosebery, K.G., K.T., Dalmeny House, Edinburgh.  
3rd No. 1123 Lord Forteviot, Dupplin Castle, Perth, "Dupplin Delight 2nd."  
V No. 1124 Lord Forteviot, Dupplin Castle, Perth, "Dupplin Delight 3rd."

## MIDDLE WHITE.

## PRESIDENT'S CHAMPION MEDAL for best Middle White Pig.

- No. 1145 John Chivers, Estate Office, Histon, Cambridge, "Histon Lady Holly  
4th."

*Reserve*—No. 1126 John Chivers, Estate Office, Histon, Cambridge, "Histon  
Rufus."

Gold Medal, or cash, value £5, for the best Middle White Boar in the Show—  
given by the National Pig-Breeders' Association.

- No. 1126 John Chivers, Estate Office, Histon, Cambridge, "Histon Rufus."

## CLASS 139. BOAR, any age.—Premiums, £8, £4, and £2.

- 1st No. 1126 John Chivers, Estate Office, Histon, Cambridge, "Histon Rufus."  
2nd No. 1129 W. B. Hill, Fairview Farm, Prestwood Road, Wednesfield, Staffs.  
(Ear No. 328).  
3rd No. 1128 W. B. Hill, Fairview Farm, Prestwood Road, Wednesfield, Staffs.  
"Scotty of Prestwood" (25,533).  
V No. 1127 W. Hallas, Bank House Farm, Helsby, Cheshire, "Watford  
Councillor" (32,527).  
H No. 1133 Captain and Mrs C. H. Walter, Chesthill, Aberfeldy, "Midlothian  
of Chesthill."  
C No. 1130 H. W. F. Hunter-Arundell, Barjarg Tower, Auldgrith, Dumfriesshire,  
"Histon Laddie" (31,779).

## CLASS 140. BOAR farrowed in 1922.—Premiums, £6, £3, and £1.

- 1st No. 1135 John Chivers, Estate Office, Histon, Cambridge, "Histon Baron  
4th."  
2nd No. 1134 John Chivers, Estate Office, Histon, Cambridge, "Histon Baron 3rd."  
3rd No. 1136 Thomas Kemp, Cogshall Hall, Northwich, Cheshire, "Cogshall David  
1st" (Ear No. 14).  
V No. 1141 Captain and Mrs C. H. Walter, Chesthill, Aberfeldy, "Chesthill  
Dandy 1st."  
H No. 1137 Duncan Phillips, Stanley, Perthshire.

Gold Medal, or cash, value £5, for the best Middle White Sow in the Show—  
given by the National Pig-Breeders' Association.

- No. 1145 John Chivers, Estate Office, Histon, Cambridge, "Histon Lady Holly  
4th."

CLASS 141. SOW, any age.—Premiums, £8, £4, and £2.

- 1st No. 1145 John Chivers, Estate Office, Histon, Cambridge, "Histon Lady Holly 4th."  
 2nd No. 1149 W. B. Hill, Fairview Farm, Prestwick Road, Wednesfield, Staffs., "Prestwick Combination Srd."  
 3rd No. 1146 W. Hallas, Bank House Farm, Helsby, Cheshire, "Histon Beauty" (83,024).  
 V No. 1153 Duncan Phillips, Stanley, Perthshire, "Stanley Maud."  
 H No. 1147 Lord Hamilton of Dalzell, K.T., Dalzell Home Farm, Motherwell, "Shrew of Lezlad."

CLASS 142. SOW farrowed in 1922.—Premiums, £8, £3, and £1.

- 1st No. 1155 W. M. Iliff, Oaken Manor, Oaken, near Wolverhampton (Ear No. 61).  
 2nd No. 1156 W. M. Iliff, Oaken Manor, Oaken, near Wolverhampton (Ear No. 62).  
 3rd No. 1153 Thomas Kemp, Cogshall Hall, Northwich, Cheshire, "Cogshall Mable 1st" (Ear No. 35).  
 V No. 1159 Duncan Phillips, Stanley, Perthshire.  
 H No. 1157 W. M. Iliff, Oaken Manor, Oaken, near Wolverhampton (Ear No. 64).

BERKSHIRE.

PRESIDENT'S CHAMPION MEDAL for best Berkshire Pig.

- No. 1166 A. Henderson Bishop, Thornton Hall, Thornton Hall Station, "Meerbahn B." (22,389).

Reserve—No. 1167 A. Henderson Bishop, Thornton Hall, Thornton Hall Station, "Thornton Hall Lurkee" (136).

Champion Prize of £10 for the best animal in the Berkshire Classes—given by the British Berkshire Society. *Animals must be entered in, or eligible for entry in, the British Berkshire Society's Herd-Book, having the date of farrow and breeder's name, the names and numbers of the sire and dam entered in Catalogue.*

- No. 1166 A. Henderson Bishop, Thornton Hall, Thornton Hall Station, "Meerbahn B." (22,389).

CLASS 143. BOAR, any age.—Premiums, £8, £4, and £2.

(No Entry.)

CLASS 144. BOAR farrowed in 1922.—Premiums, £6, £3, and £1.

- 1st No. 1164 Lieut.-Colonel John M'Kie, Glencaird, Bargrennan, Newton-Stewart, "Fatty Arbuckle."

CLASS 145. SOW, any age.—Premiums, £8, £4, and £2.

- 1st No. 1166 A. Henderson Bishop, Thornton Hall, Thornton Hall Station, "Meerbahn B." (22,389).  
 2nd No. 1167 A. Henderson Bishop, Thornton Hall, Thornton Hall Station, "Thornton Hall Lurkee" (136).  
 3rd No. 1165 A. Henderson Bishop, Thornton Hall, Thornton Hall Station, "Thornton Hall Cherry" (23,353).  
 V No. 1168 A. Henderson Bishop, Thornton Hall, Thornton Hall Station, "Thornton Hall Zorey" (142).  
 H No. 1169 A. Henderson Bishop, Thornton Hall, Thornton Hall Station, "Thornton Hall Feer" (141).

CLASS 146. SOW farrowed in 1922.—Premiums, £6, £3, and £1.

- 1st No. 1170 Lieut.-Colonel John M'Kie, Glencaird, Bargrennan, Newton-Stewart, "Princess Juliana."



## LARGE BLACK.

*PRESIDENTS CHAMPION MEDAL for best Large Black Pig.*

No. 1171 Viscount Allendale, Bywell Hall, Stocksfield-on-Tyne, "Bywell Archer" (13,851).

*Reserve*—No. 1215 A. Fingland Jack, Stocksfield Hall Farm, Stocksfield-on-Tyne, "Easton Annie 2nd" (44,560).

Champion Cup, value £10, 10s., *for the best Large Black animal exhibited*—given by the Large Black Pig Society, "*Extra Stock*" being eligible to compete.

No. 1171 Viscount Allendale, Bywell Hall, Stocksfield-on-Tyne, "Bywell Archer" (13,851).

## CLASS 147. BOAR, any age.—Premiums, £8, £4, and £2.

1st No. 1171 Viscount Allendale, Bywell Hall, Stocksfield-on-Tyne, "Bywell Archer" (13,851).

2nd No. 1174 James Hodgson, Riddings, Longtown, "Vahan Perfection 45th" (18,459).

3rd No. 1173 Henry Cunningham, Dolphinstone, Tranent, "Park Premier 1st" (13,727).

H No. 1175 A. Fingland Jack, Stocksfield Hall Farm, Stocksfield-on-Tyne, "Bygrave Challenger 2nd" (13,763).

## CLASS 148. BOAR farrowed in 1921.—Premiums, £8, £4, and £2.

1st No. 1183 John Bryce Duncan, Newlands, Dumfries, "Kedington Magnum" (18,481).

2nd No. 1179 Viscount Allendale, Bywell Hall, "Stocksfield-on-Tyne, "Bywell Trumpeter" (22,601).

3rd No. 1186 Ernest Hall, Langley House, Lanchester, Co. Durham, "Lanchester Premier" (19,735).

H No. 1178 Viscount Allendale, Bywell Hall, Stocksfield-on-Tyne, "Bywell Tripper" (22,595).

## CLASS 149. BOAR farrowed in 1922.—Premiums, £6, £3, and £1.

1st No. 1197 Ernest Hall, Langley House, Lanchester, Co. Durham, "Lanchester Chancellor 1st" (22,585).

2nd No. 1195 Charles William Forbes of Callendar, Falkirk, "Callendar Prince" (22,427).

3rd No. 1201 Thomas Kemp, Cogshall Hall, Northwich, Cheshire, "Cogshall Shinghay" (22,233).

H No. 1202 William Tytler, Doggartland Estate, Dalry, Ayrshire, "Doggartland Model XXXIX."

## CLASS 150. SOW, any age.—Premiums, £8, £4, and £2.

1st No. 1215 A. Fingland Jack, Stocksfield Hall Farm, Stocksfield on-Tyne, "Easton Annie 2nd" (44,560).

2nd No. 1208 John Bryce Duncan, Newlands, Dumfries, "Tartar Newacro" (57,890).

3rd No. 1211 Major Sir Robert G. W. Grierson, Bart., Breconrae, Ruthwell, R.S.O., Dumfriesshire, "Treblethick Duchess III." (53,410).

V No. 1214 James Houston, Brownrigg, Torthorwald, Dumfries, "Kinmount Senora VI." (27,968).

C No. 1207 James Calder, Carriden House, Bo'ness, "Tiptree" (36,706).

C No. 1216 R. Ratray, Parkconon, Arbroath, "Sudbourne Souvenir" (48,010).

CLASS 151. SOW farrowed in 1921.—Premiums, £8, £4, and £2.

- 1st No. 1231 A. Fingland Jack, Stocksfield Hall Farm, Stocksfield-on-Tyne, "Swardeston Charity" (59,462).  
 2nd No. 1235 Thomas Kemp, Cogshall Hall, Northwich, Cheshire, "Cogshall Victory" (75,966).  
 3rd No. 1224 Lord Hamilton of Dalzell, K.T., Dalzell Home Farm, Motherwell, "Dalzell Buttercup I." (68,646).  
 V No. 1223 Major Sir Robert G. W. Grierson, Bart., Breconrae, Ruthwell, R.S.O., Dumfriesshire, "Dalzell Biddy" (74,858).  
 C No. 1226 James Houston, Brownrigg, Torthorwald, Dumfries, "Kinmount Rose" (74,820).  
 C No. 1236 Captain L. D. Ranken, Lochlane, Crieff, "Islay Hyacinth 3rd."

CLASS 152. SOW farrowed in 1922.—Premiums, £6, £3, and £1.

- 1st No. 1245 Thomas Kemp, Cogshall Hall, Northwich, Cheshire, "Cogshall Primrose 1st" (80,366).  
 2nd No. 1241 Major Sir Robert G. W. Grierson, Bart., Breconrae, Ruthwell, R.S.O., Dumfriesshire, "Rockhall Jean" (79,432).  
 3rd No. 1247 William Tytler, Doggartland Estate, Dalry, Ayrshire, "Doggartland Countess."  
 V No. 1242 James Hodgson, Riddings, Longtown, "Riddings Betty 1st."

GLOUCESTERSHIRE OLD SPOTS.

PRESIDENTS CHAMPION MEDAL for best Gloucestershire Old Spots Pig.

- No. 1250 John Douglas, 142 Hanham Road, Kingswood, Bristol, "Woodstock Edwin" (3335).  
 Reserve—No. 1261 John Douglas, 142 Hanham Road, Kingswood, Bristol, "Woodstock Gertrude" (10,749).

Silver Challenge Trophy, value 40 Guineas, for best Gloucestershire Old Spots animal—given by the Gloucestershire Old Spots Pig Society, "Extra Stock" being eligible to compete.

- No. 1250 John Douglas, 142 Hanham Road, Kingswood, Bristol, "Woodstock Edwin" (3335).

CLASS 153. BOAR, any age.—Premiums, £8, £4, and £2.

- 1st No. 1250 John Douglas, 142 Hanham Road, Kingswood, Bristol, "Woodstock Edwin" (3335).  
 2nd No. 1249 Samuel & Reginald Bendall, Stanley Hotel, Stanley, Perthshire, "Sonderna Jim" (4075).  
 3rd No. 1248 Sir John Anderson, Bart., The Priory, Harrold, Beds., "Sonderna Chief" (4253).  
 H No. 1251 Major C. Randolph Dudgeon, Cargen Holm, Dumfries, "Eastham Laddie."

CLASS 154. BOAR farrowed in 1922.—Premiums, £6, £3, and £1.

- 1st No. 1255 John Douglas, 142 Hanham Road, Kingswood, Bristol, "Woodstock James."  
 2nd No. 1252 Sir John Anderson, Bart., The Priory, Harrold, Beds., "Sonderna Prince" (4687).  
 3rd No. 1253 Sir John Anderson, Bart., The Priory, Harrold, Beds., "Sonderna Knight."  
 H No. 1257 Major C. Randolph Dudgeon, Cargen Holm, Dumfries, "Cargen Holm Hero."  
 C No. 1254 Samuel & Reginald Bendall, Stanley Hotel, Stanley, Perthshire, "Perthshire Monarch."

## CLASS 155. SOW, any age.—Premiums, £8, £4, and £2.

- 1st No. 1261 John Douglas, 142 Hanham Road, Kingswood, Bristol, "Woodstock Gertrude" (10,749).  
 2nd No. 1258 Sir John Anderson, Bart., The Priory, Harrold, Beds., "Sonderna Blossom 1st" (13,322).  
 3rd No. 1259 Sir John Anderson, Bart., The Priory, Harrold, Beds., "Sonderna Mischief" (12,665).  
 H No. 1260 Samuel & Reginald Bendall, Stanley Hotel, Stanley, Perthshire, "Stanton Prior Sunstar" (9841).  
 C No. 1262 Major C. Randolph Dudgeon, Cargen Holm, Dumfries, "Ithell's Jewel" (1074).

## CLASS 156. SOW farrowed in 1922.—Premiums, £6, £3, and £1.

- 1st No. 1266 John Douglas, 142 Hanham Road, Kingswood, Bristol, "Woodstock Mabel."  
 2nd No. 1263 Sir John Anderson, Bart., The Priory, Harrold, Beds., "Sonderna Blossom 3rd" (15,280).  
 3rd No. 1264 Sir John Anderson, Bart., The Priory, Harrold, Beds., "Sonderna Blossom 5th."  
 H No. 1265 Samuel & Reginald Bendall, Stanley Hotel, Stanley, Perthshire, "Perthshire Pride."  
 C No. 1270 Major C. Randolph Dudgeon, Cargen Holm, Dumfries, "Cargen Holm Lady Bird."

## CUMBERLAND.

*PRESIDENT'S CHAMPION MEDAL for best Cumberland Pig.*

- No. 1292 John Steel, M.R.C.V.S., Southley, Wigton, Cumberland, "Conceit" (1600).  
*Reserve*—No. 1273 John Steel, M.R.C.V.S., Southley, Wigton, Cumberland, "Royal" (1254).

## CLASS 157. BOAR, any age.—Premiums, £8, £4, and £2.

- 1st No. 1273 John Steel, M.R.C.V.S., Southley, Wigton, Cumberland, "Royal" (1254).  
 2nd No. 1274 John Steel, M.R.C.V.S., Southley, Wigton, Cumberland, "Royal Fortune" (3023).  
 3rd No. 1275 John Steel, M.R.C.V.S., Southley, Wigton, Cumberland, "Southley Flash Lord" (3042).

## CLASS 158. BOAR farrowed in 1922.—Premiums, £6, £3, and £1.

- 1st No. 1276 Sir John Anderson, Bart., Dykehead Farm, Blackford, Carlisle.  
 2nd No. 1277 Sir John Anderson, Bart., Dykehead Farm, Blackford, Carlisle.  
 3rd No. 1279 John Steel, M.R.C.V.S., Southley, Wigton, Cumberland.  
 V No. 1280 John Steel, M.R.C.V.S., Southley, Wigton, Cumberland.  
 C No. 1278 Isaac Gardhouse, Aikton House, Wigton, Cumberland, "Aikton Prince."

## CLASS 159. SOW, any age.—Premiums, £8, £4, and £2.

- 1st No. 1292 John Steel, M.R.C.V.S., Southley, Wigton, Cumberland, "Conceit" (1600).  
 2nd No. 1293 John Steel, M.R.C.V.S., Southley, Wigton, Cumberland, "Southley Bloom" (2693).  
 3rd No. 1282 Sir John Anderson, Bart., Dykehead Farm, Blackford, Carlisle, "Nancy of Barnett Rigg" (1406).  
 V No. 1287 Sir John Anderson, Bart., Dykehead Farm, Blackford, Carlisle, "Dykehead Polly" (3082).  
 H No. 1294 John Steel, M.R.C.V.S., Southley, Wigton, Cumberland, "Little Mischief" (3720).  
 C No. 1284 Sir John Anderson, Bart., Dykehead Farm, Blackford, Carlisle, "Barclose Prudence" (1665).

CLASS 160. SOW farrowed in 1922.—Premiums, £6, £3, and £1.

- 1st No. 1295 Sir John Anderson, Bart., Dykehead Farm, Blackford, Carlisle.  
 2nd No. 1301 John Steel, M.R.C.V.S., Southley, Wigton, Cumberland.  
 3rd No. 1302 John Steel, M.R.C.V.S., Southley, Wigton, Cumberland.  
 H No. 1303 John Steel, M.R.C.V.S., Southley, Wigton, Cumberland.  
 C No. 1297 Isaac Gardhouse, Aikton House, Wigton, "Aikton Susannah."

## POULTRY.

First Premium—*One Sovereign*. Second Premium—*Ten Shillings*. Where there are Four or more Pens competing. Third Premium—*Five Shillings*.

Champion Challenge Bowl, value £50, for the best exhibit in the Poultry Classes—given by the Proprietors of 'The Scottish Poultry News,' Aberdeen.

- No. 5 James Weir, Brickhouse, New Abbey Road, Dumfries.

### CHAMPION MEDALS.

#### 1. Best Cock, any variety.

- No. 5 James Weir, Brickhouse, New Abbey Road, Dumfries.

#### 2. Best Hen, any variety.

- No. 63 W. Binnie, Garth House, Denny.

#### 3. Best Cockerel, any variety.

- No. 211 Lord Dewar, Homestall, East Grinstead.

#### 4. Best Pullet, any variety.

- No. 464 R. Scott Miller, Clydeneuk Poultry Farm, Uddingston (Cochin).

#### 5. Best Waterfowl.

- No. 484 James Huntly & Son, Hirsell Poultry Farm, Coldstream.

#### 6. Best Turkey.

- No. 567 Major Adair Campbell, Tulliehewan Castle, Alexandria.

### CLASS 1. LEGHORN—White. Cock.

- 1st No. 5 James Weir, Brickhouse, New Abbey Road, Dumfries.  
 2nd No. 1 W. Binnie, Garth House, Denny.  
 3rd No. 2 Lord Dewar, Homestall, East Grinstead.

### CLASS 2. LEGHORN—White. Hen.

- 1st No. 6 Lord Dewar, Homestall, East Grinstead.  
 2nd No. 10 James Weir, Brickhouse, New Abbey Road, Dumfries.  
 3rd No. 9 James Weir, Brickhouse, New Abbey Road, Dumfries.

### CLASS 3. LEGHORN—White. Cockerel.

- 1st No. 15 Lord Dewar, Homestall, East Grinstead.  
 2nd No. 19 James Weir, Brickhouse, New Abbey Road, Dumfries.  
 3rd No. 20 James Weir, Brickhouse, New Abbey Road, Dumfries.  
 V No. 11 Charles Bell, Kingholm Quay, Dumfries.  
 H No. 14 Andrew Cuthbertson, 12 St Andrew's Road, Peebles.  
 C No. 18 Richard Richardson, Norham, Bo'ness.

## CLASS 4. LEGHORN—White. Pullet.

- 1st No. 27 James Weir, Brickhouse, New Abbey Road, Dumfries.  
 2nd No. 24 Lord Dewar, Homestall, East Grinstead.  
 3rd No. 23 Andrew Cuthbertson, 12 St Andrew's Road, Peebles.  
 V No. 21 Charles Bell, Kingholm Quay, Dumfries.

## CLASS 5. LEGHORN—Any other Colour. Cock.

- 1st No. 28 David J. C. Aird, Mount Charles Poultry Yard, Kilmarnock (Brown).  
 2nd No. 29 Charles Brown, Ivybank, Kintore (Brown).  
 V No. 30 M. Manson, 61 Whitehall, Maybole (Brown).

## CLASS 6. LEGHORN—Any other Colour. Hen.

- 1st No. 40 James Weir, Brickhouse, New Abbey Road, Dumfries (Brown).  
 2nd No. 39 James B. Salmond, The Glen, Glencraig (Black).  
 3rd No. 41 James Weir, Brickhouse, New Abbey Road, Dumfries (Black).  
 V No. 38 James B. Salmond, The Glen, Glencraig (Black).  
 H No. 34 David J. C. Aird, Mount Charles Poultry Yard, Kilmarnock (Brown).

## CLASS 7. LEGHORN—Any other Colour. Cockerel.

- 1st No. 48 James B. Salmond, The Glen, Glencraig (Black).  
 2nd No. 46 Robert Robertson, Ballingry Road, Lochore (Black).  
 3rd No. 47 Robert Robertson, Ballingry Road, Lochore (Black).  
 V No. 49 James Weir, Brickhouse, New Abbey Road, Dumfries (Black).  
 H No. 44 Charles Brown, Ivybank, Kintore (Brown).

## CLASS 8. LEGHORN.—Any other Colour. Pullet.

- 1st No. 56 James Weir, Brickhouse, New Abbey Road, Dumfries (Black).  
 2nd No. 55 James B. Salmond, The Glen, Glencraig (Black).  
 3rd No. 52 Robert Robertson, Ballingry Road, Lochore (Black).  
 V No. 54 James B. Salmond, The Glen, Glencraig (Black).  
 H No. 57 James Weir, Brickhouse, New Abbey Road, Dumfries (Black).

## CLASS 9. MINORCA. Cock.

- 1st No. 60 Lord Dewar, Homestall, East Grinstead.  
 2nd No. 58 W. Binnie, Garth House, Denny.  
 C No. 62 James Weir, Brickhouse, New Abbey Road, Dumfries.

## CLASS 10. MINORCA. Hen.

- 1st No. 63 W. Binnie, Garth House, Denny.  
 2nd No. 66 Lord Dewar, Homestall, East Grinstead.  
 3rd No. 72 James Weir, Brickhouse, New Abbey Road, Dumfries.  
 C No. 71 John Watson, Braefoot Farm, Caldercruix.

## CLASS 11. MINORCA. Cockerel.

- 1st No. 74 Lord Dewar, Homestall, East Grinstead.  
 2nd No. 77 John Thomson, Middleholm Cottage, Lesmahagow.  
 3rd No. 73 W. Binnie, Garth House, Denny.  
 C No. 76 Thomas Penrice, 61 Darcy Street, Workington.

## CLASS 12. MINORCA. Pullet.

- 1st No. 80 Lord Dewar, Homestall, East Grinstead.  
 2nd No. 79 W. Binnie, Garth House, Denny.  
 3rd No. 84 James Weir, Brickhouse, New Abbey Road, Dumfries.  
 V No. 83 John Thomson, Middleholm Cottage, Lesmahagow.

## CLASS 13. SCOTCH GREY. Cock.

- 1st No. 85 Alexander Ollar, Kilkerran Cottage, Campbeltown.  
 2nd No. 88 William Ramsay, Muirhouse, Crosshouse, by Kilmarnock.  
 3rd No. 86 Alexander Ollar, Kilkerran Cottage, Campbeltown.  
 V No. 89 William Ramsay, Muirhouse, Crosshouse, by Kilmarnock.  
 H No. 87 Alexander Ollar, Kilkerran Cottage, Campbeltown.  
 C No. 90 William Ramsay, Muirhouse, Crosshouse, by Kilmarnock.

## CLASS 14. SCOTCH GREY. Hen.

- 1st No. 92 Alexander Ollar, Kilkerran Cottage, Campbeltown.  
 2nd No. 94 William Ramsay, Muirhouse, Crosshouse, by Kilmarnock.  
 3rd No. 93 Alexander Ollar, Kilkerran Cottage, Campbeltown.  
 V No. 95 William Ramsay, Muirhouse, Crosshouse, by Kilmarnock.  
 H No. 96 William Ramsay, Muirhouse, Crosshouse, by Kilmarnock.  
 C No. 97 Matthew Smith, Netherholm, Kirkmahoe, Dumfries.

## CLASS 15. SCOTCH GREY. Cockerel.

- 1st No. 101 William Murray, High Street, Auchtermuchty.  
 2nd No. 98 Lady Anderson, Harrold Priory, Sharnbrook.  
 C No. 102 Alexander Ollar, Kilkerran Cottage, Campbeltown.

## CLASS 16. SCOTCH GREY. Pullet.

- 1st No. 105 John Carswell, 148 Graham's Road, Falkirk.  
 2nd No. 107 William Murray, High Street, Auchtermuchty.  
 3rd No. 104 Lady Anderson, Harrold Priory, Sharnbrook.  
 V No. 108 Alexander Ollar, Kilkerran Cottage, Campbeltown.  
 H No. 109 William Ramsay, Muirhouse, Crosshouse, by Kilmarnock.

## CLASS 17. PLYMOUTH ROCK. Barred Cock.

- 1st No. 113 Milliken Stock Nurseries, Limited, Johnstone North.  
 2nd No. 110 Fred Argo, Bructor, Inverurie.  
 3rd No. 112 James M'Gillivray, Drumbreck, Kirkintilloch.  
 V No. 111 Charles Brown, Ivybank, Kintore.

## CLASS 18. PLYMOUTH ROCK. Barred Hen.

- 1st No. 114 Fred Argo, Bructor, Inverurie.  
 2nd No. 116 Milliken Stock Nurseries, Limited, Johnstone North.

## CLASS 19. PLYMOUTH ROCK. Barred Cockerel.

- 1st No. 117 Fred Argo, Bructor, Inverurie.  
 2nd No. 119 Milliken Stock Nurseries, Limited, Johnstone North.  
 V No. 118 David C. Gauldie, 45 Dishland Street, Arbroath.

## CLASS 20. PLYMOUTH ROCK. Barred Pullet.

- 1st No. 122 Milliken Stock Nurseries, Limited, Johnstone North.  
 2nd No. 120 Fred Argo, Bructor, Inverurie.  
 V No. 121 David C. Gauldie, 45 Dishland Street, Arbroath.

## CLASS 21. PLYMOUTH ROCK—Any other Colour. Cock or Cockerel.

- 1st No. 123 Milliken Stock Nurseries, Limited, Johnstone North (White).

## CLASS 22. PLYMOUTH ROCK—Any other Colour. Hen or Pullet.

- 1st No. 124 Milliken Stock Nurseries, Limited, Johnstone North (White).  
 2nd No. 125 Milliken Stock Nurseries, Limited, Johnstone North (Buff).

**CLASS 23. ORPINGTON—Black. Cock.**

- 1st No. 126 Lord Dewar, Homestall, East Grinstead.  
 2nd No. 128 David Reid, Firthview, Portgordon.  
 3rd No. 129 David Reid, Firthview, Portgordon.  
 V No. 127 Milliken Stock Nurseries, Limited, Johnstone North.

**CLASS 24. ORPINGTON—Black. Hen.**

- 1st No. 132 David Reid, Firthview, Portgordon.  
 2nd No. 131 David Reid, Firthview, Portgordon.  
 V No. 130 Milliken Stock Nurseries, Limited, Johnstone North.

**CLASS 25. ORPINGTON—Black. Cockerel.**

- 1st No. 133 David Reid, Firthview, Portgordon.

**CLASS 26. ORPINGTON—Black. Pullet.**

- 1st No. 135 David Reid, Firthview, Portgordon.  
 2nd No. 136 David Reid, Firthview, Portgordon.

**CLASS 27. ORPINGTON—Buff. Cock.**

- 1st No. 139 David Reid, Firthview, Portgordon.  
 2nd No. 140 David Reid, Firthview, Portgordon.  
 3rd No. 143 James Wilson, Redvers Oak, Transy Place, Dunfermline.  
 V No. 142 Alexander Shewan, South Percyhorner, Fraserburgh.  
 H No. 141 William Reid & Son, Hallcraig House, Airdrie.  
 C No. 138 Lieut.-Colonel C. Brook of Kinmount, Annan.

**CLASS 28. ORPINGTON—Buff. Hen.**

- 1st No. 145 David Reid, Firthview, Portgordon.  
 2nd No. 146 William Reid & Son, Hallcraig House, Airdrie.  
 3rd No. 147 James Stirling, Mossgrove, Bridge of Allan.  
 V No. 144 Lieut.-Colonel C. Brook of Kinmount, Annan.

**CLASS 29. ORPINGTON—Buff. Cockerel.**

- 1st No. 148 David Reid, Firthview, Portgordon.

**CLASS 30. ORPINGTON—Buff. Pullet.**

- 1st No. 149 David Reid, Firthview, Portgordon.

**CLASS 31. ORPINGTON—White. Cock.**

- 1st No. 152 The Marquis of Tweeddale, Yester, Gifford.  
 2nd No. 151 William Reid & Son, Hallcraig House, Airdrie.

**CLASS 32. ORPINGTON—White. Hen.**

- 1st No. 158 The Marquis of Tweeddale, Yester, Gifford.  
 2nd No. 154 Lord Dewar, Homestall, East Grinstead.  
 3rd No. 155 Daniel Ramage, Ashgrove Poultry Farm, Windygates.  
 V No. 156 William Reid & Son, Hallcraig House, Airdrie.

**CLASS 33. ORPINGTON—White. Cockerel.**

- 1st No. 159 James Weir, Brickhouse, New Abbey Road, Dumfries.

**CLASS 34. ORPINGTON—White. Pullet.**

- 1st No. 162 James Weir, Brickhouse, New Abbey Road, Dumfries.  
 2nd No. 161 The Marquis of Tweeddale, Yester, Gifford.

**CLASS 35. WYANDOTTE—Gold or Silver. Cock.**

- 1st No. 163 Charles Brown, Ivybank, Kintore.  
 2nd No. 164 James Lamberton, Kirkcudbright Farm, Moniaive.  
 3rd No. 165 Robert M'Crone, Poundland, Dunscore.  
 V No. 168 J. M. Philipson, Wyandotte Farm, Gilsland.  
 H No. 166 Robert Mitchell, Kennoway Road, Windygates.  
 C No. 169 William Richardson, 13 Bootham Crescent, York.

**CLASS 36. WYANDOTTE—Gold or Silver. Hen.**

- 1st No. 172 James Lamberton, Kirkcudbright Farm, Moniaive.  
 2nd No. 175 James L. Roberts, Hermitage Cottage, Dalbeattie.  
 3rd No. 171 James Lamberton, Kirkcudbright Farm, Moniaive.  
 V No. 170 James Lamberton, Kirkcudbright Farm, Moniaive.  
 H No. 174 Daniel Ramage, Ashgrove Poultry Farm, Windygates.

**CLASS 37. WYANDOTTE—Gold or Silver. Cockerel.**

- 1st No. 178 J. M. Philipson, Wyandotte Farm, Gilsland.  
 2nd No. 176 Robert M'Crone, Poundland, Dunscore.  
 3rd No. 179 Daniel Ramage, Ashgrove Poultry Farm, Windygates.  
 V No. 177 Robert M'Crone, Poundland, Dunscore.  
 H No. 180 William Richardson, 13 Bootham Crescent, York.

**CLASS 38. WYANDOTTE—Gold or Silver. Pullet.**

- 1st No. 187 J. M. Philipson, Wyandotte Farm, Gilsland.  
 2nd No. 186 J. M. Philipson, Wyandotte Farm, Gilsland.  
 3rd No. 188 Daniel Ramage, Ashgrove Poultry Farm, Windygates.  
 V No. 185 J. M. Philipson, Wyandotte Farm, Gilsland.  
 H No. 183 Robert M'Crone, Poundland, Dunscore.  
 C No. 184 Robert M'Crone, Poundland, Dunscore.

**CLASS 39. WYANDOTTE—White. Cock.**

- 1st No. 191 Lord Dewar, Homestall, East Grinstead.  
 2nd No. 197 John Weir, Midtown, New Abbey, Dumfries.  
 3rd No. 195 David Reid, Firthview, Portgordon.  
 V No. 198 Williamson Brothers, East Lochan, Blairadam.  
 H No. 194 David Reid, Firthview, Portgordon.  
 C No. 192 James Dickson, Gillhead, Kirkbean, Dumfries.

**CLASS 40. WYANDOTTE—White. Hen.**

- 1st No. 208 John Weir, Midtown, New Abbey, Dumfries.  
 2nd No. 201 Lord Dewar, Homestall, East Grinstead.  
 3rd No. 204 David Reid, Firthview, Portgordon.  
 V No. 205 David Reid, Firthview, Portgordon.  
 H No. 207 John Weir, Midtown, New Abbey, Dumfries.  
 C No. 206 James Stirling, Mossgrove, Bridge of Allan.

**CLASS 41. WYANDOTTE—White. Cockerel.**

- 1st No. 211 Lord Dewar, Homestall, East Grinstead.  
 2nd No. 214 David Reid, Firthview, Portgordon.  
 3rd No. 219 John Weir, Midtown, New Abbey, Dumfries.  
 V No. 218 James Weir, Brickhouse, New Abbey Road, Dumfries.  
 H No. 210 Charles Brown, Ivybank, Kintore.  
 C No. 213 Daniel Ramage, Ashgrove Poultry Farm, Windygates.

**CLASS 42. WYANDOTTE—White. Pullet.**

- 1st No. 230 John Weir, Midtown, New Abbey, Dumfries.  
 2nd No. 227 David Reid, Firthview, Portgordon.  
 3rd No. 231 John Weir, Midtown, New Abbey, Dumfries.  
 V No. 228 David Reid, Firthview, Portgordon.  
 H No. 224 A. J. Motherwell, Glencairn Mill, Kilmarnock.  
 C No. 229 James Stirling, Mossgrove, Bridge of Allan.



**CLASS 43. WYANDOTTE—Partridge. Cock or Cockerel.**

1st No. 233 William Reid & Son, Hallcraig House, Airdrie.

**CLASS 44. WYANDOTTE—Partridge. Hen or Pullet.**

1st No. 235 William Reid & Son, Hallcraig House, Airdrie.

**CLASS 45. WYANDOTTE—Any other Colour. Cock or Cockerel.**

1st No. 238 William Reid & Son, Hallcraig House, Airdrie (Black).  
 2nd No. 237 Daniel Ramage, Ashgrove Poultry Farm, Windygates (Black).  
 V No. 236 William Lear, Howard Cottage, Wetheral, near Carlisle (Buff).

**CLASS 46. WYANDOTTE—Any other Colour. Hen or Pullet.**

1st No. 241 William Reid & Son, Hallcraig House, Airdrie (Black).  
 2nd No. 239 William Lear, Howard Cottage, Wetheral, near Carlisle (Buff).

**CLASS 47. RHODE ISLAND RED. Cock.**

1st No. 255 John Robertson, Craigend, Dundas, South Queensferry.  
 2nd No. 252 Alexander Petrie, Airth Station, by Larbert.  
 3rd No. 251 David Mitchell, Haughmill Farm, Windygates.  
 V No. 242 James Ballantyne & Sons, 39 Eastgate, Peebles.  
 H No. 253 James Stirling, Mossgrove, Bridge of Allan.  
 C No. 243 E. F. Bauer, Wheatfield, Craigentinn, Edinburgh.

**CLASS 48. RHODE ISLAND RED. Hen.**

1st No. 266 John Robertson, Craigend, Dundas, South Queensferry.  
 2nd No. 270 E. R. Williamson, Craigvar, Kirkcaldy.  
 3rd No. 269 James Stirling, Mossgrove, Bridge of Allan.  
 V No. 267 Thomas Shanks, 10 Mill Road, Bathgate.  
 H No. 268 Thomas Shanks, 10 Mill Road, Bathgate.  
 C No. 264 William Neilson, The Terraces, Earlstoun.

**CLASS 49. RHODE ISLAND RED. Cockerel.**

1st No. 278 John Robertson, Craigend, Dundas, South Queensferry.  
 2nd No. 272 James Ballantyne & Son, 39 Eastgate, Peebles.  
 3rd No. 284 James Wilson, Redvers Oak, Transy Place, Dunfermline.  
 V No. 282 E. R. Williamson, Craigvar, Kirkcaldy.  
 H No. 280 James Stirling, Mossgrove, Bridge of Allan.  
 C No. 274 James Mason, 8 Starbank Road, Leith.

**CLASS 50. RHODE ISLAND RED. Pullet.**

1st No. 297 Thomas Shanks, 10 Mill Road, Bathgate.  
 2nd No. 295 John Robertson, Craigend, Dundas, South Queensferry.  
 3rd No. 290 James Mason, 8 Starbank Road, Leith.  
 V No. 294 John Robertson, Craigend, Dundas, South Queensferry.  
 H No. 291 Alexander Petrie, Airth Station, by Larbert.  
 C No. 292 Alexander Petrie, Airth Station, by Larbert.

**CLASS 51. FAVEROLLES. Cock.**

1st No. 302 James Laidler, East View, Glasgow Road, Paisley.

**CLASS 52. FAVEROLLES. Hen.**

1st No. 304 James Laidler, East View, Glasgow Road, Paisley.

**CLASS 53. FAVEROLLES. Cockerel.**

1st No. 306 James Laidler, East View, Glasgow Road, Paisley.

**CLASS 54. FAVEROLLES. Pullet.**

1st No. 307 James Laidler, East View, Glasgow Road, Paisley.

## CLASS 55. SUSSEX—Light. Cock.

- 1st No. 314 The Marquis of Tweeddale, Yester, Gifford.  
 2nd No. 313 James Stirling, Mossgrove, Bridge of Allan.  
 3rd No. 311 William Reid & Son, Hallcraig House, Airdrie.  
 V No. 312 James Russell, Springfield, Salsburgh, by Holytown.  
 H No. 309 Mrs M. A. Grant, Westlands, Horley.  
 C No. 310 R. Scott Miller, Clydeneuk Poultry Farm, Uddingston.

## CLASS 56. SUSSEX—Light. Hen.

- 1st No. 323 The Marquis of Tweeddale, Yester, Gifford.  
 2nd No. 317 Mrs M. A. Grant, Westlands, Horley.  
 3rd No. 322 James Stirling, Mossgrove, Bridge of Allan.  
 V No. 320 William Reid & Son, Hallcraig House, Airdrie.  
 H No. 321 James Russell, Springfield, Salsburgh, by Holytown.  
 C No. 316 Sydney C. Bristowe, Craig, Balmaclellan.

## CLASS 57. SUSSEX—Light. Coloured.

- 1st No. 330 The Marquis of Tweeddale, Yester, Gifford.  
 2nd No. 326 Mrs M. A. Grant, Westlands, Horley.  
 3rd No. 327 R. Scott Miller, Clydeneuk Poultry Farm, Uddingston.  
 V No. 329 James Stirling, Mossgrove, Bridge of Allan.  
 H No. 328 William Reid & Son, Hallcraig House, Airdrie.  
 C No. 325 Sydney C. Bristowe, Craig, Balmaclellan.

## CLASS 58. SUSSEX—Light. Pullet.

- 1st No. 338 John Henry White, Hawthorns Lodge, Galashiels.  
 2nd No. 335 William Reid & Son, Hallcraig House, Airdrie.  
 3rd No. 333 Mrs M. A. Grant, Westlands, Horley.  
 V No. 337 The Marquis of Tweeddale, Yester, Gifford.  
 H No. 339 John Henry White, Hawthorns Lodge, Galashiels.  
 C No. 336 James Stirling, Mossgrove, Bridge of Allan.

## CLASS 59. SUSSEX—Any other Variety. Cock.

- 1st No. 340 Mrs M. A. Grant, Westlands, Horley (Red).

## CLASS 60. SUSSEX—Any other Variety. Hen.

- 1st No. 342 Mrs M. A. Grant, Westlands, Horley (Speckled).  
 2nd No. 343 William Reid & Son, Hallcraig House, Airdrie (Speckled).

## CLASS 61. SUSSEX—Any other Variety. Cockerel.

- 1st No. 344 Mrs M. A. Grant, Westlands, Horley (Speckled).

## CLASS 62. SUSSEX—Any other Variety. Pullet.

- 1st No. 345 Mrs M. A. Grant, Westlands, Horley (Speckled).  
 2nd No. 346 Mrs M. A. Grant, Westlands, Horley (Red).

## CLASS 63. DORKING—Coloured. Cock.

- 1st No. 349 James Rogers, Forneth, Blairgowrie.  
 2nd No. 348 John Mechie, grain merchant, Auchtermuchty.  
 V No. 347 Charles Aitkenhead, Carr House Farm, New Seaham.

## CLASS 64. DORKING—Coloured. Hen.

- 1st No. 351 Charles Aitkenhead, Carr House Farm, New Seaham.  
 2nd No. 352 Charles Aitkenhead, Carr House Farm, New Seaham.  
 3rd No. 354 The Marquis of Tweeddale, Yester, Gifford.  
 V No. 353 James Rogers, Forneth, Blairgowrie.

## CLASS 65. DORKING—Coloured. Cockerel.

- 1st No. 356 James Rogers, Forneth, Blairgowrie.  
 2nd No. 357 James Rogers, Forneth, Blairgowrie.  
 V No. 355 Charles Aitkenhead, Carr House Farm, New Seaham.

## CLASS 66. DORKING—Coloured. Pullet.

- 1st No. 359 James Rogers, Forneth, Blairgowrie.  
 2nd No. 358 Charles Aitkenhead, Carr House Farm, New Seaham.

## CLASS 67. DORKING—Silver Grey. Cock.

- 1st No. 363 John Mechie, grain merchant, Auchtermuchty.  
 2nd No. 360 David Adams, Auchencraig, Dumbarton.  
 3rd No. 362 Alexander Mann, Broomhill Road, Keith.  
 V No. 364 James Rogers, Forneth, Blairgowrie.  
 H No. 361 Charles Aitkenhead, Carr House Farm, New Seaham.  
 C No. 365 James Rogers, Forneth, Blairgowrie.

## CLASS 68. DORKING—Silver Grey. Hen.

- 1st No. 369 John Mechie, grain merchant, Auchtermuchty.  
 2nd No. 370 James Rogers, Forneth, Blairgowrie.  
 V No. 368 Alexander Mann, Broomhill Road, Keith.

## CLASS 69. DORKING—Silver Grey. Cockerel.

- 1st No. 374 John Mechie, grain merchant, Auchtermuchty.  
 2nd No. 373 Alexander Mann, Broomhill Road, Keith.  
 3rd No. 371 Charles Aitkenhead, Carr House Farm, New Seaham.  
 V No. 372 James Glen, 4 Trafalgar Street, Greenock.

## CLASS 70. DORKING—Silver Grey. Pullet.

- 1st No. 378 John Mechie, grain merchant, Auchtermuchty.  
 2nd No. 375 Charles Aitkenhead, Carr House Farm, New Seaham.  
 3rd No. 377 Alexander Mann, Broomhill Road, Keith.  
 V No. 376 James Glen, 4 Trafalgar Street, Greenock.

## CLASS 71. SCOTS DUMPHY. Cock or Cockerel.

- 1st No. 381 J. E. Kerr, Harviestoun, Dollar.  
 2nd No. 384 John Major, Ditton, Langley.  
 3rd No. 380 J. E. Kerr, Harviestoun, Dollar.  
 V No. 382 J. E. Kerr, Harviestoun, Dollar.  
 H No. 385 John Major, Ditton, Langley.  
 C No. 386 William Reid & Son, Hallcraig House, Airdrie.

## CLASS 72. SCOTS DUMPHY. Hen or Pullet.

- 1st No. 388 J. E. Kerr, Harviestoun, Dollar.  
 2nd No. 389 J. E. Kerr, Harviestoun, Dollar.  
 3rd No. 393 John Major, Ditton, Langley.  
 V No. 395 William Reid & Son, Hallcraig House, Airdrie.  
 H No. 392 John Major, Ditton, Langley.  
 C No. 390 J. E. Kerr, Harviestoun, Dollar.

## CLASS 73. INDIAN GAME. Cock.

- 1st No. 396 Francis J. B. Douglas, Redlairdston, Buchlyvie.  
 2nd No. 397 C. Sneddon, 30 Station Road, Wesham, Kirkham.  
 V No. 398 Stephen Wilson & Son, Coolgardie Poultry Farm, Ranchory.

## CLASS 74. INDIAN GAME. Hen.

- 1st No. 401 C. Sneddon, 30 Station Road, Wesham, Kirkham.  
 2nd No. 399 Hugh Scott, 31 Nelson Street, Greenock.  
 3rd No. 400 Hugh Scott, 31 Nelson Street, Greenock.

CLASS 75. INDIAN GAME. Cockerel.

1st No. 402 C. Sneddon, 30 Station Road, Wesham, Kirkham.

CLASS 76. INDIAN GAME. Pullet.

1st No. 403 C. Sneddon, 30 Station Road, Wesham, Kirkham.

CLASS 77. GAME—Old English. Cock.

1st No. 409 C. Sneddon, 30 Station Road, Wesham, Kirkham.  
 2nd No. 405 Lord Dewar, Homestall, East Grinstead.  
 3rd No. 408 William Graham Reid, Low Cote Hill Farm, Carlisle.  
 V No. 406 John Hutt, Denend, Cardenden.  
 H No. 404 D. & F. Crichton, Foodicash, Cupar-Fife.  
 H No. 407 John Hutt, Denend, Cardenden.  
 C No. 410 J. Thorburn, Fernlea, Annan.

CLASS 78. GAME—Old English. Hen.

1st No. 412 William Graham Reid, Low Cote Hill Farm, Carlisle.  
 2nd No. 413 William Graham Reid, Low Cote Hill Farm, Carlisle.  
 3rd No. 415 C. Sneddon, 30 Station Road, Wesham, Kirkham.  
 V No. 411 John Hutt, Denend, Cardenden.  
 H No. 414 John Steel Robson, Wallfoot, Carlisle.

CLASS 79. GAME—Old English. Cockerel.

1st No. 418 C. Sneddon, 30 Station Road, Wesham, Kirkham.  
 2nd No. 417 William Graham Reid, Low Cote Hill Farm, Carlisle.

CLASS 80. GAME—Old English. Pullet.

1st No. 421 C. Sneddon, 30 Station Road, Wesham, Kirkham.  
 2nd No. 420 William Graham Reid, Low Cote Hill Farm, Carlisle.

CLASS 81. BANTAM—Game. Cock.

1st No. 423 C. Sneddon, 30 Station Road, Wesham, Kirkham.  
 2nd No. 422 David J. C. Aird, Mount Charles Poultry Yard, Kilmarnock.  
 V No. 424 F. A. Watt, Solicitor, Banff.

CLASS 82. BANTAM—Game. Hen.

1st No. 425 David J. C. Aird, Mount Charles Poultry Yard, Kilmarnock.  
 2nd No. 428 C. Sneddon, 30 Station Road, Wesham, Kirkham.  
 3rd No. 427 Joseph W. Ellwood, Papcastle, Cockermouth.  
 V No. 429 F. A. Watt, Solicitor, Banff.  
 H No. 430 F. A. Watt, Solicitor, Banff.  
 C No. 426 Joseph W. Ellwood, Papcastle, Cockermouth.

CLASS 83. BANTAM—Other than Game. Cock.

1st No. 436 G. C. Robertson, Gowanlea, Castle-Douglas (Rosecomb Black).  
 2nd No. 435 Milliken Stock Nurseries, Limited, Johnstone North (Pekin Black).  
 3rd No. 431 David J. C. Aird, Mount Charles Poultry Yard, Kilmarnock (Pekin Black).  
 V No. 437 Williamson Brothers, East Lochran, Blairadam (Wyandotte White).  
 H No. 432 Richard Bryce, 58 Bridge Street, Lockerbie (Rosecomb Black).

CLASS 84. BANTAM—Other than Game. Hen.

1st No. 439 W. Binnie, Garth House, Denny (Wyandotte White).  
 2nd No. 443 Milliken Stock Nurseries, Limited, Johnstone North (Pekin Black).  
 3rd No. 441 Lord Dewar, Homestall, East Grinstead (Wyandotte White).  
 V No. 442 James M'Gillivray, Drumbreck, Kirkintilloch (Polish White).  
 H No. 438 David J. C. Aird, Mount Charles Poultry Yard, Kilmarnock (Pekin Black).  
 C No. 444 Williamson Brothers, East Lochran, Blairadam (Wyandotte White).

## CLASS 85. ANY OTHER RECOGNISED BREED. Cock.

- 1st No. 447 C. Sneddon, 30 Station Road, Wesham, Kirkham (Modern Game).  
 2nd No. 445 Alexander Ollar, Kilkerran Cottage, Campbeltown (Spanish Black).  
 3rd No. 448 Crossley Sykes, Home Park Poultry Farm, Inveresk (Lakenreider).  
 V No. 449 Stephen Wilson & Son, Coolgardie Poultry Farm, Banchory (Orpington Blue).  
 H No. 446 William Paterson, Mouswald Townhead, Ruthwell (Ancona Black and White).

## CLASS 86. ANY OTHER RECOGNISED BREED. Hen.

- 1st No. 455 William Reid & Son, Hallcraig House, Airdrie (Orpington Blue).  
 2nd No. 456 C. Sneddon, 30 Station Road, Wesham, Kirkham (Modern Game).  
 3rd No. 453 Alexander Ollar, Kilkerran Cottage, Campbeltown (Spanish Black).  
 V No. 452 Miss M. O'Hagan, Station House, Castle-Douglas (Silkie).  
 H No. 450 James M'Gillivray, Drumbreck, Kirkintilloch (Polish Black and White Crest).  
 H No. 454 William Paterson, Mouswald Townhead, Ruthwell (Ancona Black and White).  
 C No. 457 Crossley Sykes, Home Park Poultry Farm, Inveresk (Lakenreider).

## CLASS 87. ANY OTHER RECOGNISED BREED. Cockerel.

- 1st No. 461 C. Sneddon, 30 Station Road, Wesham, Kirkham (Modern Game).  
 2nd No. 459 R. Scott Miller, Clydeneuk Poultry Farm, Uddingston (Cochin).  
 3rd No. 460 William Paterson, Mouswald Townhead, Ruthwell (Ancona Black and White).  
 V No. 458 David J. C. Aird, Mount Charles Poultry Yard, Kilmarnock (Pile).

## CLASS 88. ANY OTHER RECOGNISED BREED. Pullet.

- 1st No. 464 R. Scott Miller, Clydeneuk Poultry Farm, Uddingston (Cochin).  
 2nd No. 463 David J. C. Aird, Mount Charles Poultry Yard, Kilmarnock (Pile).  
 3rd No. 466 C. Sneddon, 30 Station Road, Wesham, Kirkham (Modern Game).  
 V No. 467 Crossley Sykes, Home Park Poultry Farm, Inveresk (Ancona).  
 H No. 465 William Paterson, Mouswald Townhead, Ruthwell (Ancona Black and White).

## CLASS 89. CROSS-BRED FOWLS FOR LAYING PURPOSES. Hen.

- 1st No. 468 W. Binnie, Garth House, Denny.  
 2nd No. 473 James Lamberton, Kirkcudbright Farm, Moniaive.  
 3rd No. 469 John Clement, Westview, Stranraer.  
 V No. 472 James Huntly & Son, Hirsell Poultry Farm, Coldstream.  
 H No. 471 David C. Gauldie, 45 Dishland Street, Arbroath.  
 C No. 474 James Mason, 8 Starbank Road, Leith.

## CLASS 90. CROSS-BRED FOWLS FOR LAYING PURPOSES. Pullet.

- 1st No. 476 W. Binnie, Garth House, Denny.  
 2nd No. 480 William Thomson, Drumburn, New Abbey Road, Dumfries.  
 3rd No. 477 James P. Dalgleish, Westgrange Dunfermline.  
 V No. 479 A. J. Motherwell, Glencairn Mill, Kilmarnock.  
 H No. 478 James Huntly & Son, Hirsell Poultry Farm, Coldstream.

## CLASS 91. DUCKS—Aylesbury. Drake.

- 1st No. 484 James Huntly & Son, Hirsell Poultry Farm, Coldstream.  
 2nd No. 485 James Huntly & Son, Hirsell Poultry Farm, Coldstream.  
 3rd No. 486 R. A. Kirkwood, Camelton Hotel, Falkirk.  
 V No. 482 Brig.-General R. M. Dudgeon, D.S.O., M.C., Winnecowetts, Gretna.  
 H No. 483 John Henderson, Jerriestown, Blackford, Carlisle.  
 C No. 481 Mrs Dalziel, Rue, Auldgrith.

## CLASS 92. DUCKS—Aylesbury. Duck.

- 1st No. 493 James Huntly & Son, Hirsell Poultry Farm, Coldstream.  
 2nd No. 494 James Huntly & Son, Hirsell Poultry Farm, Coldstream.  
 3rd No. 495 R. A. Kirkwood, Camelton Hotel, Falkirk.  
 V No. 490 Mrs Dalziel, Rue, Auldgirth.  
 H No. 492 John Henderson, Jerriestown, Blackford, Carlisle.  
 C No. 491 Brig.-General R. M. Dudgeon, D.S.O., M.C., Winnecowetts, Gretna.

## CLASS 93. DUCKS—Orpington. Drake.

- 1st No. 497 James Huntly & Son, Hirsell Poultry Farm, Coldstream.  
 2nd No. 498 James Huntly & Son, Hirsell Poultry Farm, Coldstream.  
 V No. 496 Lieut.-Colonel C. Brook, of Kinmount, Annan.

## CLASS 94. DUCKS—Orpington. Duck.

- 1st No. 501 James Huntly & Son, Hirsell Poultry Farm, Coldstream.  
 2nd No. 502 James Huntly & Son, Hirsell Poultry Farm, Coldstream.  
 V No. 500 Lieut.-Colonel C. Brook, of Kinmount, Annan.

## CLASS 95. DUCKS—Indian Runner. Drake.

- 1st No. 511 James Huntly & Son, Hirsell Poultry Farm, Coldstream.  
 2nd No. 520 Matthew Smith, Netherholm, Kirkmahoe, Dumfries.  
 3rd No. 518 Matthew Smith, Netherholm, Kirkmahoe, Dumfries.  
 V No. 521 The Marquis of Tweeddale, Yester, Gifford.  
 V No. 522 William Walton, Bellgarth, Newtown, Carlisle.  
 H No. 514 E. H. Lang, Craig Bittern, Dalbeattie.  
 C No. 508 I. T. Dodd, The Wath Farm, Silloth.

## CLASS 96. DUCKS—Indian Runner. Duck.

- 1st No. 529 James P. Dalgleish, Westgrange, Dunfermline.  
 2nd No. 535 James Huntly & Son, Hirsell Poultry Farm, Coldstream.  
 3rd No. 547 William Woodmass, Howard House, Gilsland.  
 V No. 546 William Woodmass, Howard House, Gilsland.  
 H No. 544 William Walton, Bellgarth, Newtown, Carlisle.  
 C No. 528 James B. V. Cummings, Carlops Poultry Farm, Carlops, by Penicuik.

## CLASS 97. DUCKS—Any other Variety. Drake.

- 1st No. 549 James Huntly & Son, Hirsell Poultry Farm, Coldstream (Rouen).  
 2nd No. 548 James Huntly & Son, Hirsell Poultry Farm, Coldstream (Rouen).  
 3rd No. 553 Mrs Alexander A. Muir, Rispaan, Whithorn (Rouen).  
 V No. 550 E. H. Lang, Craig Bittern, Dalbeattie (Khaki-Campbell).  
 H No. 551 E. H. Lang, Craig Bittern, Dalbeattie (Khaki-Campbell).  
 C No. 552 R. Scott Miller, Clydeneuk Poultry Farm, Uddingston (Crested Blue and White).

## CLASS 98. DUCKS—Any other Variety. Duck.

- 1st No. 554 James Huntly & Son, Hirsell Poultry Farm, Coldstream (Rouen).  
 2nd No. 555 James Huntly & Son, Hirsell Poultry Farm, Coldstream (Rouen).  
 3rd No. 557 E. H. Lang, Craig Bittern, Dalbeattie (Khaki-Campbell).  
 V No. 556 E. H. Lang, Craig Bittern, Dalbeattie (Khaki-Campbell).  
 H No. 558 Mrs Alexander A. Muir, Rispaan, Whithorn (Rouen).

## CLASS 99. GEESE. Gander.

- 1st No. 561 A. H. Fox-Brockbank, The Croft, Kirksanton, Silcroft.  
 2nd No. 562 Mrs Alexander A. Muir, Rispaan, Whithorn.  
 V No. 559 Edinburgh Corporation Farm Colony, Polton, Lasswade.  
 H No. 560 Edinburgh Corporation Farm Colony, Polton, Lasswade.

## CLASS 100. GEESE. Goose.

- 1st No. 565 A. H. Fox-Brockbank, The Croft, Kirksanton, Silecroft.  
 2nd No. 566 Mrs Alexander A. Muir, Rispaig, Whithorn.  
 V No. 563 Edinburgh Corporation Farm Colony, Polton, Lasswade.  
 H No. 564 Edinburgh Corporation Farm Colony, Polton, Lasswade.

## CLASS 101. TURKEYS. Cock.

- 1st No. 567 Major Adair Campbell, Tullichewan Castle, Alexandria.  
 2nd No. 570 Alexander Shewan, South Percyhorner, Fraserburgh.  
 V No. 569 Miss P. Macmillan, Woodlea, Moniaive.

## CLASS 102. TURKEYS. Hen.

- 1st No. 571 John Clement, Westview, Stranraer.  
 2nd No. 573 Alexander Shewan, South Percyhorner, Fraserburgh.  
 V No. 572 Miss P. Macmillan, Woodlea, Moniaive.

## TABLE POULTRY.

## CLASS 103. TABLE FOWLS—Any Pure Breed. Pair of Cockerels.

- 1st No. 576 John Mechie, Grain Merchant, Auchtermuchty (Dorking).  
 2nd No. 577 John Robertson, Craigend, Dundas, South Queensferry (Rhode Island Red).  
 V No. 575 James Huntly & Son, Hirsell Poultry Farm, Coldstream (Rhode Island Red).  
 H No. 574 James P. Dalgleish, Westgrange, Dunfermline (Plymouth Rock).

## CLASS 104. TABLE FOWLS—Any Pure Breed. Pair of Pullets.

- 1st No. 581 John Robertson, Craigend, Dundas, South Queensferry (Rhode Island Red).  
 2nd No. 580 John Mechie, Grain Merchant, Auchtermuchty (Dorking).  
 3rd No. 582 The Marquis of Tweeddale, Yester, Gifford (Light Sussex).  
 V No. 578 James P. Dalgleish, Westgrange, Dunfermline (Plymouth Rock).

## CLASS 105. TABLE FOWLS—Game-Cross. Pair of Cockerels.

- 1st No. 583 James Huntly & Son, Hirsell Poultry Farm, Coldstream.

## CLASS 106. TABLE FOWLS—Game-Cross. Pair of Pullets.

(Not Forward.)

## CLASS 107. TABLE FOWLS—Any other Cross. Pair of Cockerels.

(No Entry.)

## CLASS 108. TABLE FOWLS—Any other Cross. Pair of Pullets.

- 1st No. 586 James Huntly & Son, Hirsell Poultry Farm, Coldstream (Leghorn and Buff-Orpington).

CLASS 109. DUCKLINGS for Table Purposes—Any Breed or Cross.  
Pair of Ducklings.

- 1st No. 587 James Huntly & Son, Hirsell Poultry Farm, Coldstream (Aylesbury).  
 2nd No. 588 James Huntly & Son, Hirsell Poultry Farm, Coldstream (Buff-Orpington).

## DAIRY PRODUCE.

**CLASS 1. POWDERED BUTTER**, not less than 3 lb.—Premiums, £4, £2, and £1.

- 1st No. 6 Mrs Helen Monteith, "Island," Bothkennar, Falkirk.  
 2nd No. 8 Miss Rennie, Parkhead, Slamannan.  
 3rd No. 1 Andrew Fleming, Threepland, Eaglesham.  
 V No. 9 Miss Shanks, Broomhill, Denny.  
 H No. 4 Robert Littlejohn, Genoch Farm, Ayr.  
 C No. 14 Robert Stirling, Mid Forrest, Cumbernauld, Dumbartonshire.  
 C No. 15 John Weir, Midtown, New Abbey, Dumfries.

**CLASS 2. FRESH BUTTER**, Three 1-lb. Rolls.—Premiums, £4, £2, and £1.

- 1st No. 22 Miss Rennie, Parkhead, Slamannan.  
 2nd No. 20 Mrs Helen Monteith, "Island," Bothkennar, Falkirk.  
 3rd No. 23 Miss Shanks, Broomhill, Denny.  
 V No. 16 Andrew Fleming, Threepland, Eaglesham.  
 H No. 26 David Steel, Lodge Farm, Slamannan.  
 C No. 21 Robert Raphael, Ingleston-of-Borgue, Borgue.  
 C No. 27 Captain E. O. M Taggart Stewart, Barrhill, Ardwell, Stranraer.

**CLASS 3. CHEDDAR CHEESE**, 56 lb. and upwards.—Premiums £6, £4, £2, and £1.

- 1st No. 38 William Cruickshanks, Kirkeoch, Kirkcudbright.  
 2nd No. 50 William Hunter, Garthland Mains, Stranraer.  
 3rd No. 57 James Lockhart, Cairniehill Dairy, Borgue, Kirkcudbright.  
 4th No. 80 Alexander Wyllie, Mossiel, Mauchline.  
 V No. 39 William Dean, Culraven Dairy, Kirkcudbright.  
 H No. 68 Samuel M'Minn, Torrs Dairy, Kirkcudbright.  
 C No. 61 James M. M'Caig, Barmiltoch, Stranraer.  
 C No. 63 W. M'Connell, Shankston Farm, Patna, Ayrshire.  
 C No. 69 James Milroy, Drumcork Dairy, Thornhill.  
 C No. 70 Adam W. Montgomerie, Lessnessock, Ochiltree.

**CLASS 4. SWEET-MILK CHEESE**, flat shape (from a dairy where all cheese is made flat shape), white in colour, made according to the Dunlop or other method.—Premiums, £4, £2, and £1.

- 1st No. 81 John Dowie, Myremill Dairy, Maybole.  
 2nd No. 88 Samuel Young, Bridgend, Coylton, by Ayr.  
 3rd No. 82 David Goudie, Glenwharry, Kirkcannel.  
 V No. 83 Major Henry Keswick, Cowhill Tower, Dumfries.  
 H No. 84 James Kirkland & Sons, Cowcorse, Kirkbean, Dumfries.

**CLASS 5. CHEESE**, 14 lb. and under.—Premiums, £3, £2, and £1.

- 1st No. 101 William Hunter, Garthland Mains, Stranraer.  
 2nd No. 121 Alexander Wyllie, Mossiel, Mauchline.  
 3rd No. 92 William Cruickshanks, Kirkeoch, Kirkcudbright.  
 V No. 108 William A. M'Adam, Whitepark, Castle-Douglas.  
 H No. 98 John M. Gibson, Spittal, Creetown.  
 C No. 93 William Dean, Culraven Dairy, Kirkcudbright.  
 C No. 117 Robert Raphael, Ingleston-of-Borgue, Borgue.  
 C No. 119 Sir Mark J. M'T. Stewart, Bart., of Southwick, Dumfries.



## BEE APPLIANCES AND HONEY, &amp;c.

## OPEN CLASSES.

*Should there be in any class three or less than three entries, the value of the first prize will be reduced to that of the second, the second to that of the third, and no third prize will be awarded.*

## APPLIANCES.

**CLASS 1.** Collection of HIVES and APPLIANCES, to include amongst other articles the following: Three Standard Frame Hives complete, fitted with arrangements for supering. A suitable outfit for a beginner in Beekeeping.—Premiums, 80s., 40s., 20s.

1st No. 2 R. Steele & Brodie, Wormit, Fife.

2nd No. 1 Lindsay & Fenwick, 143 South Street, Perth.

**CLASS 2.** Best and most complete STANDARD FRAME HIVE for general use, unpainted.—Premiums, 20s., 15s., 10s.

1st No. 4 R. Steele & Brodie, Wormit, Fife.

2nd No. 3 Lindsay & Fenwick, 143 South Street, Perth.

**CLASS 3.** Best and most complete STANDARD FRAME HIVE for Cottagers' use, unpainted, price not to exceed 35s.—Premiums, 20s., 15s., 10s.

1st No. 5 Lindsay & Fenwick, 143 South Street, Perth.

2nd No. 6 R. Steele & Brodie, Wormit, Fife.

**CLASS 4.** Any NEW APPLIANCE connected with Beekeeping to which no prize has been awarded at any previous Highland Show.—Premiums, 10s., 5s.

1st No. 8 R. Steele & Brodie, Wormit, Fife.

## HONEY, &amp;c.

The Rosebery Silver Medal—awarded by the Scottish Bee-Keepers' Association to the winner of the greatest number of points in Honey Classes, calculated on the following basis: 1st prize, 3 points; 2nd prize, 2 points; 3rd prize, 1 point.

William Gilchrist, Netherhall, Castle-Douglas, 12 points.

The Apis Club Bronze Medal—awarded to the winner of the second highest number of points. Winners must be at the time members or affiliated to the Scottish Bee-Keepers' Association.

Richard Grierson, Carrutherstown, Ruthwell, 8 points.

**CLASS 5.** Six Sections of COMB HONEY.—Premiums, 20s., 15s., 10s.

1st No. 12 William Gilchrist, Netherhall, Castle-Douglas.

2nd No. 14 Richard Grierson, Carrutherstown, Ruthwell.

3rd No. 10 Miss Mary E. Brown, The Old Schoolhouse, Cramond.

V No. 20 Robert M'Call Wilson, Longbank, Kirkmahoe, Dumfries.

**CLASS 6** Six Jars of RUN or EXTRACTED LIGHT-COLOURED HONEY, approximate weight 6 lb.—Premiums, 20s., 15s., 10s.

1st No. 32 Miss P. E. M'Kenzie, Summerfield, Torthorwald Road, by Dumfries.

2nd No. 21 John Birkett, Rainhill, Lancashire.

3rd No. 25 Richard Grierson, Carrutherstown, Ruthwell.

V No. 33 William Shuker, High Street, Hale, near Liverpool.

H No. 22 James Cochran, 18 Dundonald Road, Kilmarnock.

**CLASS 7.** Six Jars of RUN or EXTRACTED MEDIUM or DARK-COLOURED HONEY, excluding Heather, approximate weight 6 lb.—Premiums, 20s. 15s., 10s.

- 1st No. 40 Mrs A. M'George, The Smithy, Torthorwald, Dumfries.
- 2nd No. 38 D. J. Griffiths & Aubrey, Upper Lhedi Reservoir, Felinfoel, Llanelly.
- 3rd No. 36 James Cochran, 18 Dundonald Road, Kilmarnock.
- C No. 35 William Boyd, Newlands Gardens, Dumfries.
- C No. 42 Robert M'Call Wilson, Longbank, Kirkmahoe, Dumfries.

**CLASS 8.** Six Jars of PRESSED HEATHER HONEY in liquid form, approximate weight 6 lb.—Premiums, 20s., 15s., 10s.

- 1st No. 46 Alexander White, Sunnyhill, Old Cumnock.
- 2nd No. 44 T. Gordon & Sons, Torbrex Nurseries, Stirling.
- 3rd No. 43 William Boyd, Newlands Gardens, Dumfries.
- V No. 45 Donald Macdonald, Schoolhouse, Millhouse, Argyll.
- H No. 47 Robert M'Call Wilson, Longbank, Kirkmahoe, Dumfries.

**CLASS 9.** Six Jars of GRANULATED HONEY, approximate weight 6 lb.—Premiums, 20s., 15s., 10s.

- 1st No. 49 James Cochran, 18 Dundonald Road, Kilmarnock.
- 2nd No. 51 T. Gordon & Sons, Torbrex Nurseries, Stirling.
- 3rd No. 48 William Boyd, Newlands Gardens, Dumfries.
- V No. 50 William Gilchrist, Netherhall, Castle-Douglas.
- H No. 53 Miss P. E. M'Kenzie, Summerfield, Torthorwald Road, by Dumfries.

**CLASS 10.** One Shallow Frame of COMB HONEY for extracting purposes.—Premiums, 20s., 15s., 10s.

- 1st No. 57 William Gilchrist, Netherhall, Castle-Douglas.

**CLASS 11.** PRODUCTS made with the aid of Honey. Recipe to be attached.—Premiums, 20s., 15s., 10s.

- 1st No. 64 Miss P. E. M'Kenzie, Summerfield, Torthorwald Road, by Dumfries.
- 2nd No. 63 Mrs A. M'George, The Smithy, Torthorwald, Dumfries.

**CLASS 12.** Best display of HONEY in any form staged in space 3 feet by 3 feet, height from table not exceeding 4 feet. Weight of Honey not to exceed 100 lb.—Premiums, 60s., 30s., 20s.

- 1st No. 65 William Gilchrist, Netherhall, Castle-Douglas.
- 2nd No. 66 T. Gordon & Sons, Torbrex Nurseries, Stirling.

**CLASS 13.** Best exhibit of not less than 1 lb. of WAX in any form.—Premiums, 20s., 15s., 10s.

- 1st No. 67 William Gilchrist, Netherhall, Castle-Douglas.
- 2nd No. 70 Robert Harper, Sauchenward, Botriphnie, Keith.
- 3rd No. 68 T. Gordon & Sons, Torbrex Nurseries, Stirling.
- V No. 72 Miss Rachel Munro, The Kennels, Glenrinnies, Duftown.

**CLASS 14.** Best exhibit of not less than 1 lb. of WAX made into shape for retail trade and over-counter trade.—Premiums, 20s., 15s., 10s.

- 1st No. 74 James Cochran, 18 Dundonald Road, Kilmarnock.
- 2nd No. 77 Miss Rachel Munro, The Kennels, Glenrinnies, Duftown.
- 3rd No. 78 Robert M'Call Wilson, Longbank, Kirkmahoe, Dumfries.

*Apis Club Silver Medal for best Exhibit in Class 15.*

- No. 80 T. Gordon & Sons, Torbrex Nurseries, Stirling.

**CLASS 15.** OBSERVATORY HIVE with Queen and Bees.—Premiums, 50s., 30s., 15s.

- 1st No. 80 T. Gordon & Sons, Torbrex Nurseries, Stirling.

**CLASS 16. EXHIBIT** of a scientific nature not mentioned in the foregoing classes, to which no prize has been awarded at any previous Highland Show.—Premiums, 20s., 15s., 10s.

1st No. 84 R. Steele & Brodie, Wormit, Fife.

2nd No. 85 Robert M'Call Wilson, Longbank, Kirkmahoe, Dumfries.

### CONFINED TO SCOTTISH EXHIBITORS.

**CLASS 17. Six Sections of COMB HONEY.**—Premiums, 30s., 20s., 10s.

1st No. 90 William Gilchrist, Netherhall, Castle-Douglas.

2nd No. 92 Richard Grierson, Carrutherstown, Ruthwell.

3rd No. 102 Robert M'Call Wilson, Longbank, Kirkmahoe, Dumfries.

V No. 86 William Boyd, Newlands Gardens, Dumfries.

**CLASS 18. Six Jars of RUN or EXTRACTED MEDIUM or DARK-COLOURED HONEY,** approximate weight 6 lb.—Premiums, 30s., 20s., 10s.

1st No. 108 Donald Macdonald, Schoolhouse, Millhouse, Argyll.

2nd No. 111 Alexander White, Sunnyhill, Old Cumnock.

3rd No. 109 Mrs A. M'George, The Smithy, Torthorwald, Dumfries.

V No. 112 Robert M'Call Wilson, Longbank, Kirkmahoe, Dumfries.

**CLASS 19. Six Jars of RUN or EXTRACTED LIGHT-COLOURED HONEY,** approximate weight 6 lb.—Premiums, 30s., 20s., 10s.

1st No. 117 Richard Grierson, Carrutherstown, Ruthwell.

2nd No. 122 Miss P. E. M'Kenzie, Summerfield, Torthorwald Road, by Dumfries.

3rd No. 114 James Cochran, 18 Dundonald Road, Kilmarnock.

V No. 118 James G. Hamilton, Oxford Place, Garelochhead.

H No. 126 Robert M'Call Wilson, Longbank, Kirkmahoe, Dumfries.

C No. 115 William Gilchrist, Netherhall, Castle-Douglas.

C No. 116 T. Gordon & Sons, Torbrex Nurseries, Stirling.

## WOOL.

### PURE BREED CLASSES.

**CLASS 1. BLACKFACE WOOL—EWE.** Three Fleeces.—Premiums, £3, £2, and £1.

1st No. 7 John S. Dickson, Flemington, Dolphinton.

2nd No. 3 James Campbell, Tullich, Killin.

3rd No. 12 D. Willison, Acharn, Killin.

**CLASS 2. BLACKFACE WOOL—WEDDER.** Three Fleeces.—Premiums, £3, £2, and £1.

1st No. 16 James Campbell, Tullich, Killin.

2nd No. 14 William Barbour, Cleurie, Dalry, Kirkeudbright.

3rd No. 18 Charles M. Collins, Blairvockie, Rowardennan, Loch Lomond.

**CLASS 3. BLACKFACE WOOL—HOGG.** Three Fleeces.—  
Premiums, £3, £2, and £1.

- 1st No. 35 Arthur Young, Garroch, Dalry, Galloway.  
2nd No. 31 Messrs Macmillan, Glencrosh, Moniaive.  
3rd No. 29 T. W. H. M'Dougal, Overshiels, Stow.

**CLASS 4. CHEVIOT WOOL—EWE.** Three Fleeces.—  
Premiums, £3, £2, and £1.

- 1st No. 40 Thomas Oliver, Greenbanks, Robertson, Hawick.  
2nd No. 41 Thomas Oliver, Greenbanks, Robertson, Hawick.  
3rd No. 39 John Henderson, Wiltonburn, Hawick.

**CLASS 5. CHEVIOT WOOL—HOGG.** Three Fleeces.—  
Premiums, £3, £2, and £1.

- 1st No. 48 James Henderson, Wiltonburn, Hawick.  
2nd No. 49 Thomas Oliver, Greenbanks, Robertson, Hawick.  
3rd No. 46 George P. Dun, Gilston, Heriot.

**CLASS 6. BORDER LEICESTER WOOL—EWE.** Three Fleeces.—  
Premiums, £3, £2, and £1.

- 1st No. 55 Thomas & Matthew Templeton, Sandyknowe, Kelso.  
2nd No. 56 Thomas & Matthew Templeton, Sandyknowe, Kelso.  
3rd No. 53 R. G. Murray & Son, Spittal, Biggar.

**CLASS 7. BORDER LEICESTER WOOL—HOGG.** Three Fleeces.—  
Premiums, £3, £2, and £1.

- 1st No. 59 Thomas & Matthew Templeton, Sandyknowe, Kelso.  
2nd No. 60 Thomas & Matthew Templeton, Sandyknowe, Kelso.  
3rd No. 58 W. R. Ross, Culloden, Inverness.

**CLASS 8. HALF-BRED WOOL—EWE.** Three Fleeces.—  
Premiums, £3, £2, and £1.

- 1st No. 61 John C. Brown, Hundalee, Jedburgh.  
2nd No. 63 Thomas Oliver, Greenbanks, Robertson, Hawick.  
3rd No. 65 Thomas & Matthew Templeton, Sandyknowe, Kelso.

**CLASS 9. HALF-BRED WOOL—HOGG.** Three Fleeces.—  
Premiums, £3, £2, and £1.

- 1st No. 66 John C. Brown, Hundalee, Jedburgh.  
2nd No. 67 Thomas Oliver, Greenbanks, Robertson, Hawick.  
3rd No. 69 Thomas & Matthew Templeton, Sandyknowe, Kelso.

**CLASS 10. SHETLAND WOOL—EWE.** Three Fleeces.—  
Premiums, £3, £2, and £1.

- 1st No. 76 George Morrison, Burwick, Scalloway.  
2nd No. 71 Mrs M. E. Campbell, Dolphinton.  
3rd No. 75 Alexander Cowan of Loganhouse, Valleyfield, Penicuik.

**CLASS 11. SHETLAND WOOL—HOGG.** Three Fleeces.—  
Premiums, £3, £2, and £1.

- 1st No. 81 Alexander Cowan of Loganhouse, Valleyfield, Penicuik.  
2nd No. 82 Alexander Cowan of Loganhouse, Valleyfield, Penicuik.  
3rd No. 78 Dr J. C. Bowie, Parkhall, Bixter.

## RURAL INDUSTRIES SECTION.

PREMIUMS—£3, £2, and £1 in each Class.

## SHETLAND KNITTING.

## CLASS 1. FINE GOODS.

- 1st No. 11 Miss E. C. Sutherland, 10 Chromate Lane, Lerwick (Shawl).  
 2nd No. 12 Mrs T. Sutherland, 10 Chromate Lane, Lerwick (Scarf).  
 3rd No. 7 Mrs Mowat, Sunnieside, Haroldswick, Shetland (Shawl).  
 V No. 8 Miss M. Robertson, Coutt's Mill, Uyeasound, Unst, Shetland (Shawl).  
 H No. 13 Miss M. Wilson, F.C. Manse, Coulter, Biggar (Shawl).

## CLASS 2. JUMPER.

- 1st No. 14 Mrs Margaret Abernethy, Lochend, North Mavine, Shetland.  
 2nd No. 30 Mrs Mowat, Sunnieside, Haroldswick, Shetland.  
 3rd No. 20 Miss A. Dalziel, Tait's Buildings, Lerwick.  
 V No. 34 Miss J. Sutherland, 10 Chromate Lane, Lerwick.  
 H No. 31 Miss C. Nicholson, 10 Chromate Lane, Lerwick.  
 C No. 27 Joann A. Mackenzie, Seton Lodge, Scalloway.  
 C No. 28 Miss E. M. Mainland, Brake, Quendale, Dunrossness, Shetland.  
 C No. 33 Mrs Sutherland, Spragatop, Haroldswick, Shetland.

## CLASS 3. OTHER EXHIBITS.

- 1st No. 36 Miss M. Addison, Parkfield Road, Lerwick (Scarf).  
 2nd No. 39 Mrs L. Christie, Skibhoull, Cunningsburgh, Shetland (Gloves).  
 3rd No. 51 Miss A. Sutherland, 10 Chromate Lane, Lerwick (Scarf).  
 V No. 47 Miss G. Peterson, Hillswick, Shetland (Lady's Dress).  
 H No. 40 Miss W. S. Christie, Skibhoull, Cunningsburgh, Shetland (Dressing Jacket).

## TWEEDS.

## CLASS 4. SHETLAND.

(No Entry.)

## CLASS 5. HARRIS.

- 1st No. 55 Miss C. Morrison, The Village, Scalpay, Harris.

## CLASS 6. OTHER HOMESPUN.

- 1st No. 60 Miss M. Murray, Tressidy Hill, Lairg.  
 2nd No. 62 Mrs D. Ross, Tomich, Lairg.  
 3rd No. 61 Mrs D. Ross, Tomich, Lairg.  
 V No. 58 Miss M. Murray, Tressidy Hill, Lairg.

## MISCELLANEOUS.

## CLASS 7. HOME-MADE RUG.

- 1st No. 76 Mrs J. Johnstone, Walton Road, Kirkpatrick-Durham.  
 2nd No. 92 Mrs B. Roger, Balgrove, St Andrews.  
 3rd No. 80 Mrs M. M'Dowall, Drybridge, by Kilmarnock.  
 V No. 65 Miss A. B. Anderson, H.M. Coastguard Station, Cairn Ryan.  
 H No. 70 Mrs J. Dickson, Grange Cottages, Lamancha, Peeblesshire.  
 C No. 64 Mrs Adam, The Manse, Kirkpatrick-Durham.  
 C No. 66 Mrs Black, Whitehill, Parton.  
 C No. 81 Miss A. M'Feat, Kingswells, Auchterarder.

## CLASS 8. EMBROIDERY.

- 1st No. 143 Miss A. A. Stewart, Lochhill, Ringford (Tea Cloth).  
 2nd No. 130 Miss S. Maxwell, Slaothorn, Holywood, Dumfries (Tea Cloth).  
 3rd No. 125 Longniddry Women's Rural Institute, Longniddry (Child's Smock).  
 V No. 141 Miss E. F. Rutherford, Mountainhall, Dumfries (Bed Cover).  
 H No. 104 Mrs Clanachan, Montgomerie Street, Tarbolton, Ayrshire (Baby's Robe).  
 C No. 120 Miss A. Johnstone, Kettleholm, Lockerbie (Bag).  
 C No. 122 Miss B. Kirkpatrick, Galrinnies, Balmaclellan (Nightdress Case).  
 C No. 129 Mrs A. Macrae, Fairburn Mains, Muir-of-Ord (Tea Cloth).  
 C No. 145 Mrs E. Watson, 59 George Square, Edinburgh (Table Runner).

## CLASS 9. LEATHER GLOVES.

- 1st No. 160 Dunchurch and Thurlaston Women's Institute, near Rugby.  
 2nd No. 157 Dunchurch and Thurlaston Women's Institute, near Rugby.  
 3rd No. 179 Miss A. C. Proctor, The Brae, Balmaclellan.  
 V No. 167 Longniddry Women's Rural Institute, Longniddry.  
 H No. 175 Miss V. Milling, Ashton Keynes Vic., Cricklade, Wilts.  
 C No. 155 Dunchurch and Thurlaston Women's Institute, near Rugby.  
 C No. 182 Miss E. Whyte, South Gangour, Lesmahagow.  
 C No. 183 Miss J. Wyllie, Evertown, Canonbie, Dumfries.

## CLASS 10. FUR GLOVES.

- 1st No. 184 Mrs K. Clark, Bovindene, Playden, Rye, Sussex.  
 2nd No. 187 Dunchurch and Thurlaston Women's Institute, near Rugby.  
 3rd No. 189 Dunchurch and Thurlaston Women's Institute, near Rugby.  
 V No. 196 Miss H. Scott, Scotford, Ford, Midlothian.  
 H No. 194 Miss M. M'Robert, Fauldbræ, Boreland, Lockerbie.  
 C No. 186 Dunchurch and Thurlaston Women's Institute, near Rugby.

## CLASS 11. SPECIMEN OF FURCRAFT OTHER THAN GLOVES.

- 1st No. 202 Miss M. J. Edgar, Kelton Mains, Castle-Douglas (Motor Rug).  
 2nd No. 200 Mrs K. Clark, Bovindene, Playden, Rye, Sussex (Stole and Muff).  
 3rd No. 209 Miss E. Murray, Murraythwaite, Ecclefechan (Rug).  
 V No. 210 Mrs B. Spragge, Denbie, Lockerbie (Rug).  
 H No. 204 Longniddry Women's Rural Institute, Longniddry (Collar).  
 C No. 203 Miss I. C. Irving, Barcaple, Ringford (Slippers).

## CLASS 12. SPECIMEN OF LEATHERWORK OTHER THAN GLOVES.

- 1st No. 223 Miss D. Hunter, Glenochar, Elvanfoot, Crawford (Jerkin).  
 2nd No. 220 Mrs I. R. Gilmour, Scalebor, Burley-on-Wharfedale (Bag).  
 3rd No. 221 Miss N. Grove, Dalawoodie, Dumfries (Moccasins).  
 V No. 219 Miss M. Duprey, The Corner House, Playden, Rye, Sussex (Hat).  
 H No. 218 Dunchurch and Thurlaston Women's Institute (Footstool).

## CLASS 13. SPECIMEN OF HAND-PAINTED POTTERY.

- 1st No. 235 Miss J. E. Amour, 15 Buccleuch Place, Edinburgh (Large Covered Dish).  
 2nd No. 259 Mrs M. Smith, Birkhill, Lesmahagow (Bowl).  
 3rd No. 244 Longniddry Women's Institute, Longniddry (Jug).  
 V No. 242 Longniddry Women's Institute, Longniddry (Dinner Plate).  
 H No. 260 Miss E. Story, 30 Lilybank Gardens, Glasgow (Porridge Bowl).  
 C No. 262 Miss A. D. Watson, 5 Morningside Park, Edinburgh (Bedroom Set).

## CLASS 14. SPECIMEN OF BASKET WORK (Rafia baskets not eligible).

- 1st No. 271 Mr J. Wilson, Lomond View, Strathmiglo (Key Basket).  
 2nd No. 270 Miss R. L. Rhymes, North Leigh, Witney, Oxfordshire (Basket).  
 3rd No. 263 Miss J. Mallen, Fordel, Dalkeith (Lunch Basket).  
 V No. 269 Miss L. Pendreigh, Catcune House, Gorebridge (Work Basket).  
 H No. 266 Longniddry Women's Institute, Longniddry (Waste-paper Basket).  
 C No. 264 Fortwilliam Women's Rural Institute, Fortwilliam (Basket).

**CLASS 15. BOTTLED FRUIT** (bottled in or before 1921—Three Bottles).

- 1st No. 274 Longniddry Women's Institute, Longniddry (Cherries, Black Currants, Plums).  
 2nd No. 273 Mrs M. Lawson, Crofts, Dalbeattie (Gooseberry, Black Currant, Rhubarb).  
 3rd No. 276 Miss E. F. Mackay, Lochinch, Castle Kennedy (Various).

*Confined to Institutes and Members of Institutes in the South-Western Area of Scottish Women's Rural Institutes.*

**CLASS 16. HOME CURED BACON OR HAM** (not less than 8 lb.)

- 1st No. 284 Mrs R. Grierson, Carrutherstown, Ruthwell.  
 2nd No. 292 Miss L. Murray, Crocketford, Dumfries.  
 3rd No. 295 Mrs Smith, Marks, Twynholm.

**CLASS 17. RUG MADE FROM OLD MATERIAL.**

- 1st No. 331 Mrs Robertson, Haugh-of-Urr, Dalbeattie.  
 2nd No. 335 Mrs J. Wallace, Fallburns, Thankerton.  
 3rd No. 310 Miss M. Geddes, Mossdale, New Galloway.  
 V No. 319 Miss E. Kimm, Ringford, Kirkcudbright.  
 H No. 311 Mrs M. Goldie, Nether Fenton, Boreland, Lockerbie.  
 C No. 299 Mrs Black, Whitehill, Parton.  
 C No. 313 Miss J. B. Grant, Upper Fenton, Boreland, Lockerbie.  
 C No. 329 Mrs Morrison, Post Office, Parton.

**CLASS 18. COLOURED EMBROIDERY.**

- 1st No. 344 Mrs R. Brown, Marchburn, Cairn Ryan, Stranraer (Hand-sewn Picture).  
 2nd No. 343 Mrs Brown, Re-Cruin, Crawford, Abington (Cushion Cover).  
 3rd No. 374 Miss M. A. Powell, Ardwell, Wigtownshire (Child's Frock).  
 V No. 358 Miss G. Kennedy, Schoolhouse, Springholm, Dalbeattie (Cushion).  
 H No. 342 Miss N. E. Bonser, Watermeetings, Elvanfoot, Crawford (Sideboard Cloth).  
 C No. 367 Mrs E. M'Queen, Crofts, Dalbeattie (Table Centre).  
 C No. 371 Miss J. Montgomery, Netherhall, Castle-Douglas (Table Cloth).

**CLASS 19. BED-COVER.**

- 1st No. 398 Miss H. Wilson, Brocketsbrae, Lesmahagow.  
 2nd No. 394 Mrs Rae, Bellevue, Twynholm.  
 3rd No. 390 Miss M. Low, Shieldhill, Biggar.  
 V No. 396 Miss L. P. Smith, F.C. Manse, Coulter, Biggar.  
 H No. 383 Miss W. Black, Whitehill, Parton.  
 C No. 386 Dunlop Women's Institute, Dunlop, Ayrshire.

**CLASS 20. KNITTED JUMPER OR JERSEY.**

- 1st No. 408 Miss M. Fairservice, Wellwood, Lesmahagow (Jumper).  
 2nd No. 414 Mrs M'Cormick, Redfield, Twynholm (Jersey).  
 3rd No. 431 Mrs M. Tannock, Middleton, Mauchline (Jumper).  
 H No. 432 Mrs W. Tiffen, Dalawoodie Lodge, Dumfries (Jumper Dress).  
 C No. 405 Miss J. Drysdale, Cladyhoose, Cairn Ryan (Jumper).

*Special Prizes to the Institute winning the largest number of prizes in the Confined Classes. First Prize to count six points, Second Prize five points, Third Prize four points, V.H.C. three points, H.C. two points, and C. one point.*

- 1st Twynholm W.R.I. (14 points).  
 2nd Lesmahagow W.R.I. (12 points).  
 3rd Cairn Ryan W.R.I.  
     Crawford and Elvanfoot W.R.I., equal (7 points).

## HORSE SHOEING.

*Open to Shoeing-Smiths from any part of the United Kingdom.*

Piece of Silver Plate, given by Messrs Neilson & Cleland, Coatbridge, to the winner of *First Prize in each Class.*

No. 45 David H. Muir, R.S.S., Bogend Smithy, by Kilmarnock.

Gold Medal, given by the Mustad Nail Company, for *best-made Shoe in each Class.*

No. 41 George Mungall Marshall, Gateside, Beith.

CLASS 1. FARM or WORK HORSES (Open Class).—Premiums £5, £3, £2, £1.

- 1st No. 45 David H. Muir, R.S.S., Bogend Smithy, by Kilmarnock.
- 2nd No. 41 George Mungall Marshall, Gateside, Beith.
- 3rd No. 34 Henry Kinnear, Dechmont, by Uphall, Linlithgowshire.
- 4th No. 51 John Tomlinson, A.F.C.V., High Street Forge, Morley, near Leeds.
- V No. 28 John Hogg, R.S.S., Newton Irthington, Brampton, Cumberland.
- H No. 8 Andrew Brockbank, Bankhill, Lockerbie.
- C No. 30 David Irving, 28 Friars' Vennel, Dumfries.
- C No. 43 William Moffat, Chapelton Smithy, Borgue, Kirkcudbright.

Piece of Silver Plate, given by Messrs Neilson & Cleland, Coatbridge, to the winner of *First Prize in each Class.*

No. 5 James Fenwick, 78 Ward Road, Dundee.

Gold Medal, given by the Mustad Nail Company, for *best-made Shoe in each Class.*

No. 9 Edward Martin, jun., Closeburn, Thornhill, Dumfries.

CLASS 2. FARM or WORK HORSES (Juniors under twenty-five years of age).—Premiums £5, £3, £2, £1.

- 1st No. 5 James Fenwick, 78 Ward Road, Dundee.
- 2nd No. 9 Edward Martin, jun., Closeburn, Thornhill, Dumfries.
- 3rd No. 4 John Duffy, Stoneykirk, Stranraer.
- 4th No. 1 John Cain, 62 St John Street, Whithorn.
- V No. 2 Alexander Chalmers, jun., 388 Paisley Road, Glasgow.
- H No. 6 Robert Hamilton, Smithy, Twynholm, Kirkcudbrightshire.

## NEW IMPLEMENTS.

The Judges having inspected the new implements submitted for competition, have awarded the Society's silver medal to the following:—

- B. H. Brown, Kenton Bank Foot, Newcastle-on-Tyne (No. 844)—Simar Rotary Tiller.
- George Henderson, Kelso Foundry, Kelso (No. 1230)—Enclosed Dustproof and Self-lubricating Driving Gears fitted to Manure Distributor.
- Martin's Cultivator Co., Ltd., Lincolnshire Iron-Works, Stamford, Lines. (No. 1559)—Martin's New Self-lift Spring-Tine Tractor Harrow.
- Alexander Newlands & Sons, Ltd., St Magdalene Engineering Works, Linlithgow (No. 1290)—"Self-lift" Brake Harrow.
- Thomas Pate, West Browncastle, Strathaven (No. 559)—Pate's Patent Draining Plough.
- E. & H. Roberts, Ltd., Deanshanger, Stony Stratford (No. 197)—Patent Breast or Mouldboard with combined support on "Mephisto" Plough.
- J. S. Smith & Sons, 124 High Street, Arbroath (No. 737)—Rapid Portway Water Heater.
- Robert Stewart, Zoological Park, Edinburgh (No. 1440)—"Pied Piper" Rat Destructor.



## JUDGES.

*Shorthorn*.—James Cameron, Balnakeyle, Munlochy, Ross-shire; C. H. Jolliffe, Hemingford Park, St Ives, Hunts.

*Aberdeen-Angus*.—John Philip, Dandaleith, Craigellachie; Peter D. Robertson, Castlecraig, Nigg, Ross-shire.

*Galloway*.—J. J. Thomlinson, Cleugh Head, Low Row, Carlisle; James Clark, Auchenhay, Corsock, Dalbeattie.

*Highland*.—John Macdonald, Whitfield, West Linton; Hugh Macdiarmid, Island House, Tiree.

*Ayrshire*.—Alexander Cochrane, Nether Craig, Kilmarnock; John N. Watson, Cawhillan, Ochiltree.

*British Friesian*.—George Buchanan, Hunterhill, Paisley; Alexander Munro, Leanach, Culloeden Moor, Inverness.

*Red Poll*.—J. E. Quesada, The Firs, Cheriton, Kent.

*Belted Galloway and Blue Greys*.—Samuel Clark, 17 Station Road, Dalbeattie; John Barbour, Afton Lodge, Lockerbie.

*Draught Stallions, Entire Colts, and Geldings*.—James Hamilton, Dunduff, Ayr; Charles Aitkenhead, Carr House Farm, New Seaham; George Bean, Balloch, Montrose.

*Draught Mares and Fillies*.—Andrew Renwick, Skateraw, Innerwick; Peter Dewar, Arnprior, Port of Menteith; John Cocker, Hill of Petty, Fyvie.

*Hunters*.—General J. M. Babington, Pinnacle Hill, Kelso; Captain T. L. Wickham-Roynton, Estate Office, Burton Agnes, East Yorks.

*Hackneys, Ponies, and Harness Horses*.—Charles E. Galbraith, The Barony, Dumfries.

*Highland Ponies*.—John Macdonald, Whitfield, West Linton.

*Western Island Ponies*.—William Logan, O.B.E., V.S., 36 Academy Street, Inverness.

*Shetland Ponies*.—Walter A. Aitkenhead, Haining Valley, Linlithgow; David Stewart, I.S.O., Blantyre Park, High Blantyre.

*Blackface Sheep*.—H. Anderson, Over Whitehaugh, Muirkirk; W. C. Burton, Auchtertyre, Tyndrum; Campbell Willis, Tirathur, Killin.

*Cheviot*.—Charles W. Mundell, Delny House, Delny, Ross-shire; Joseph Murray, Corsebank, Sanquhar.

*Border Leicester*.—James Finlay, Craigeassie, Forfar; James Wallace, Chapelhill, Dunrod, Castle-Douglas.

*Half-Bred*.—Duncan M'Laren, Fairnington, Roxburgh.

*Oxford Down*.—James Jeffrey, Little Spott, Dunbar.

*Suffolk*.—J. W. Eagle, The Hall, Walton-on-Naze, Essex.

*Shropshire*.—Alfred Mansell, College Hill, Shrewsbury.

*Goats*.—Mrs Soames, Long Buckby Wharf, Rugby.

*Large White Pigs*.—R. P. Haynes, Delves Green Farm, Wednesbury, Staffs.

*Middle White*.—J. H. Holland, Peene House, Newington, Shorncliffe Camp, Kent.

*Berkshire*.—John Crowe, Woodhouse, Alford, Chester.

*Large Black*.—N. M. Bruce, Estate Office, Sudbourne Hall, Orford, Suffolk.

*Gloucestershire Old Spots*.—Eldred G. F. Walker, The Hollies, Chew Stoke, near Bristol.

*Cumberland*.—Peter Duncan, 14 Dalblair Road, Ayr.

*Poultry*.—Thomas Lambert, Homelea, Silsden, Yorks, *Classes* 1 to 8, 17 to 22, 35 to 46, 51 to 54, 91 to 100, 103 to 109 inclusive; William Morgan, Balcurvie, Windygates, *Classes* 9 to 16, 23 to 34, 47 to 50, 55 to 72, 101 and 102 inclusive; George White, County Buildings, Cupar, *Classes* 73 to 90 inclusive.

*Dairy Produce*.—William M'Fadzean, 35 Dundonald Road, Kilmarnock.

*Rural Industries*.—Andrew Stewart, 28 North Bridge, Edinburgh, *Classes* 1 to 6; Mrs Blair Cunynghame, Broomfield, Moniaive, *Classes* 7 and 17; Mrs Taylor, The Green Gate, Kirkcudbright, *Classes* 8, 13, and 18; Miss A. Knox Arthur, School of Art, Renfield Street, Glasgow, *Classes* 9, 12, 14, and 19; Mrs Clark, Waterhead of Dryfe, by Lockerbie, *Classes* 10 and 11; D. V. Howells, Hill of Orchard, Carlisle, *Class* 15; Archibald Kirkpatrick (Messrs A. Kirkpatrick & Sons), Thornhill, Dumfriesshire, *Class* 16; Mrs Eadie, Hall of Caldwell, Renfrewshire, *Class* 20.

*Horse Shoeing*.—James Lindsay, V.S., Dumfries; William Paul, Blacksmith, Ballie's Causeway, Hamilton.

*Bees Appliances and Honey*.—Joseph Tinsley, F.E.S., West of Scotland Agricultural College, Burns Avenue, Kilmarnock.

*Wool*.—Herbert C. Redman (Crawford, Cree, & Lawries, Ltd.), 204 Elliot Street, Glasgow.

## ATTENDING MEMBERS.

**SHORTHORN.**—*T. A. Buttar, G. B. Shields, John Bell, John T. Brown.*

**ABERDEEN-ANGUS.**—*Alexander Robertson, George Will, Andrew Chapman, Captain J. B. Douglas.*

**GALLOWAY.**—*Major C. R. Dudgeon, A. B. Leitch, William Barbour, Murray Little.*

**HIGHLAND.**—*R. A. Smith, James L. Drew, Sir M. G. Wallace.*

**AYRSHIRE.**—*W. P. Gilmour, Thomas Kirk, James B. Crawford, A. C. B. Montgomery, John Wilson.*

**BRITISH FRIESIAN.**—*Colonel J. L. Reid, William Kirkpatrick, Captain E. Orde M'Taggart Stewart.*

**RED POLL.**—*R. Jardine Paterson, Wellwood Maxwell, Sir Mark M'T. Stewart, Thomas Stobo.*

**BRITED GALLOWAYS AND BLUE GREYS.**—*James Phillips, James Charlton, John Hewetson, Major William M'Call.*

**DRAUGHT STALLIONS.**—*Charles Douglas, D.Sc., C.B., John Speir, Alex. Neilson MacCaig, James M'Clean, James Wyllie (Tinwald Downs).*

**DRAUGHT MARES.**—*William Meiklem, Robert Park, Archibald Crawford, John Finlay, Matthew C. Lusk.*

**HUNTERS.**—*Colonel F. J. Carruthers, Colonel John M'Kie, Charles H. Maxwell, John W. Scott.*

**HACKNEYS, PONIES, AND HARNESS HORSES.**—*M. S. Thomson, Brig.-Gen. Robert Maxwell Dudgeon, D.S.O., M.C., J. B. Sproat, Fred. J. Turner.*

**HIGHLAND PONIES.**—*John P. Sleigh, Lewis D. Wigau, Thomas Wither.*

**WESTERN ISLAND PONIES.**—*J. G. M'Myn, Captain J. M. Gilmour, M.C., David H. Williamson.*

**SHETLAND PONIES.**—*William Low, Major Henry Keswick, William Wyllie.*

**BLACKFACE.**—*F. N. M. Gourlay, James M'Laren, William Lorimer, William E. Paterson.*

**CHEVIOT.**—*James Grieve, Thomas M. Macmillan, W. Kennedy Moffat.*

**BORDER LEICESTER.**—*J. Bryce Duncan, Major Mark Sprot, M. H. M'Kerrow.*

**HALF-BRED.**—*C. W. Ralston, Percy J. Adair, J. H. Milne Home.*

**OXFORD DOWN.**—*Captain A. M. Montgomery, John Henderson.*

**SUFFOLK.**—*Lieut.-Col. W. T. R. Houldsworth, Provost Arnott, James A. Kirkpatrick.*

**SHROPSHIRE.**—*Colonel Sir John A. Hope, Bart., M.P., Bailie M'Lachlan.*

**GOATS.**—*J. T. M'Laren, Bailie Chapman, Charles J. N. Fleming, Miss Elsa W. T. Macmillan, Miss M. H. Stewart, N.D.D.*

**LARGE WHITE PIGS.**—*William Poole J.P., T. R. Evans.*

**MIDDLE WHITE.**—*Alexander Cowan, Treasurer Adam.*

**BERKSHIRE.**—*H. B. Marshall, Stair M'Harrie.*

**LARGE BLACK.**—*Provost T. S. Macaulay, O.B.E., Dean of Guild Lockerbie.*

**GLOUCESTERSHIRE OLD SPOTS.**—*Sir David Wilson, Bart., D. Fergusson.*

**CUMBERLAND.**—*Colonel Charles Brook, James Wyllie (Elmbank).*

**POULTRY.**—*Dr J. F. Tocher, J. G. M. Craunstoun, Bailie Grieve, Judge O'Brien, Judge Smart, John Weir.*

**DAIRY PRODUCE.**—*Lewis Beattie.*

**HORSE-SHOEING.**—*Robert Park, John Speir, George Will, John Bryden, Adam Hetherington, James Irving.*

**RURAL INDUSTRIES.**—*Robert Adamson, W.S., R. A. Grierson, C. S. M'Kerrow, George Russell.*

**BEE APPLIANCES AND HONEY.**—*A. Aikman Blair, James K. Greig, James A. Ferguson, Thomas Henderson.*

**WOOL.**—*Edward J. Craig, John Gardiner.*

## II.—VETERINARY DEPARTMENT.

## CLASS EXAMINATIONS, 1922.

Silver Medals were awarded to the following :—

## GLASGOW VETERINARY COLLEGE.

Chemistry . . . . .	David Walker, Whithorn.
Biology . . . . .	David Walker, Whithorn.
Junior Anatomy . . . . .	William Weipers, Glasgow.
Senior Anatomy . . . . .	Bryce J. M. Nairn, Glasgow.
Physiology . . . . .	Bryce J. M. Nairn, Glasgow.
Stable Management . . . . .	John M'Quaker, Glenluce.
Pathology and Bacteriology . . . . .	{ Andrew Cruickshank, Keith. Roy Turnbull, Auchtermuchty.
Materia Medica . . . . .	Andrew Cruickshank, Keith.
Hygiene and Dietetics . . . . .	Sydney G. Abbott, Olydebank.
Medicine and Meat Inspection . . . . .	Charles A. M'Gaughey, Glasgow.
Surgery and Obstetrics . . . . .	Charles A. M'Gaughey, Glasgow.

12 Large Silver Medals, £12, 12s.

## ROYAL (DICK) VETERINARY COLLEGE.

Chemistry . . . . .	G. B. Brook, Kinlochleven.
Biology . . . . .	D. Cameron, Comrie.
Junior Anatomy . . . . .	G. B. Brook, Kinlochleven.
Senior Anatomy . . . . .	I. A. M. Innes, Edinburgh.
Physiology . . . . .	E. R. Corrigan, Stromness.
Stable Management . . . . .	I. Hill, Ballyarnott, Co. Antrim.
Materia Medica . . . . .	W. J. Ironside, Maud.
Pathology . . . . .	W. G. Beaton, Kenya Colony.
Hygiene . . . . .	J. L. Stewart, Edinburgh.
Surgery . . . . .	D. Dunbar, Fordyce.
Medicine . . . . .	D. Dunbar, Fordyce.

11 Large Silver Medals, £11, 11s.

## III.—DISTRICT COMPETITIONS, 1922.

22 Districts—Grants of £12 each (Section I.) . . . . .	£264 0 0
10 " Grants of £15 each . . . . .	150 0 0
14 " Special Grants, £79; medals, £11, 2s. . . . .	90 2 0
Medals for Shows (43 large) . . . . .	45 3 0
3 " Medals for Cottages, Gardens, &c. (6 Minor) . . . . .	2 8 0
24 " Medals for Hoeing Competitions, 1921-22. . . . .	9 12 0
157 " Medals for Ploughing, 1921-22 . . . . .	70 13 0
90 Long Service Certificates, £43, 15s. 10d., and Medals, £52, 10s. (1921-22) . . . . .	96 5 10
	<hr/> £728 3 10

## ABSTRACT OF PREMIUMS.

District Competitions . . . . .	£631 18 0
Long Service Awards . . . . .	96 5 10
Veterinary Colleges (23 Medals) . . . . .	24 8 0
	<hr/> £752 6 10

## STIRLING SHOW, 1921.

## ALTERATIONS IN PRIZE LIST.

On account of animals failing to comply with the Regulations as to calving, foaling, and farrowing, the following changes have taken place in the list of animals for which prizes were awarded:—

## CATTLE

## GALLOWAY.

CLASS 17. HEIFER, calved on or after 1st December 1918.—  
Premiums, £10, £5, £3, and £2.

- 1st No. 176 John Cunningham, Tarbreoch, Dalbeattie, "Tarbreoch Blue Bell 3rd" (26,883).  
 \* No. 179 W. Betts Donaldson, Auchineden, Blanefield, "Mona of Killearn" (26,898).  
 2nd No. 178 W. Betts Donaldson, Auchineden, Blanefield, "Olivia of Killearn" (26,897).  
 3rd No. 181 Robert Graham, Chapel of Logan, Canonbie, "Gratitude 4th of Logan" (26,995).  
 4th No. 183 D. & J. Little, Corriehalls, Lockerbie, "Nettie 5th of Corriehalls" (27,060).

## HORSES

## DRAUGHT.

CLASS 49. YELD MARE, foaled before 1918.—Premiums, £12, £9, £6, and £4.

- 1st No. 465 John P. Sleigh of St John's Wells, Fyvie, "Wells Lady Ray" (44,060).  
 \* No. 461 George A. Ferguson, Northern Stud, Elgin, "Farleton Jean."  
 2nd No. 460 James Dickie, Kelton House, Dumfries, "Nyasa Queen."  
 3rd No. 464 William Meiklem, Begg, Kirkcaldy, "Maud" (50,902).  
 4th No. 458 George Bean, West Ballochy, Montrose, "Queen Juana."

## PIGS

## GLOUCESTERSHIRE OLD SPOTS.

CLASS 141. SOW, any age.—Premiums, £8, £4, and £2.

- 1st No. 1168 The Marquis of Graham, C.B., Easton Park, Wickham Market, Suffolk, "Sevington Searchlight 2nd."  
 \* No. 1166 Samuel T. L. Bendall, Stanley Hotel, Stanley, Perthshire, "Stanton Prior Sunstar."  
 \* No. 1170 Mrs F. M. Rogerson, Mount Oswald, Durham, "Mount Oswald Beauty I."

*The animals failing to qualify are marked thus (\*).*



# STATE OF THE FUNDS

OF

## THE HIGHLAND AND AGRICULTURAL SOCIETY OF SCOTLAND

As at 30th NOVEMBER 1922

I. INVESTED IN WAR STOCK, HERITABLE BONDS, DEBENTURE AND PREFERENCE RAILWAY STOCKS, BANK STOCKS, &c. .	£110,853	16	10	
II. TEMPORARY LOANS, £3,500 with Edinburgh Corporation .	3,500	0	0	
III. ESTIMATED VALUE of Building, No. 3 George IV. Bridge .	£3,100	0	0	
IV. ESTIMATED VALUE of Furniture, Paintings, Books, &c. .	1,000	0	0	
		4,100	0	0
V. ARREARS OF SUBSCRIPTIONS considered recoverable .		268	19	6
VI. BALANCE at 30th November 1922 .		1,363	18	4
AMOUNT OF GENERAL FUNDS .	£120,086	14	8	

### VII. SPECIAL FUNDS—

#### TWEEEDDALE MEDAL FUND—

Heritable Bond, at 5 per cent .	£500	0	0
Sum on Deposit Receipt with British Linen Bank .	76	1	7
	£576	1	7

#### FIFE AND KINROSS PERPETUAL CHALLENGE CUP—

£460 Great Central Railway Co. 3½ per cent Second Debenture Stock, at 70 . . . . .	£322	0	0
Sum on Deposit Receipt with British Linen Bank . . . . .	32	11	11
	<hr/>		
		354	11 11

#### PAISLEY GOLD CUP FUND—

£302, 8s. 8d. North British Railway Co. 3 per cent Debenture Stock, at 61 . . . . .	£489 9 8	
Sum on Deposit Receipt with British Linen Bank . . . . .	70 13 5	
	<hr/>	560 3 1

#### RENFREWSHIRE GOLD CUP FUND—

£668, 14s. 4d. North British Railway Co. 3 per cent Debenture Stock, at 61	£407 18 4
Sum on Deposit Receipt with British Linen Bank	65 4 1
	<hr/>
	473 2 5

#### WILLIAM TAYLOR MEMORIAL PRIZE FUND—

£401, 2s. 7d. North British Railway Co. 3 per cent Debenture Stock, at 61 . . . . .	£244 13 9	
Sum on Deposit Receipt with British Linen Bank . . . . .	54 6 11	
	<hr/>	299 0 8

#### WILLIAM DUTHIE CHALLENGE CUP FUND—

£260 2½ per cent Consolidated Stock at 56½ .		147	11	0
BALANCES WITH BRITISH LINEN BANK at 30th November 1922		69	6	0

AMOUNT OF SPECIAL FUNDS . . . £2,479 16 8

HUGH SHAW STEWART, *Chairman of Directors.*

J. T. M'LAREN, *Member of Finance Committee.*

WM. HOME COOK, C.A., *Auditor.*

EDINBURGH, 10th January 1923.

VOL. XXXV.

2 D

# **ABSTRACT of the ACCOUNTS of the HIGHLAND and CHARGE.**

1. BALANCE as at 30th November 1921 . . . . .	£2,141 11 3	
2. ARREARS of Subscriptions outstanding at 30th November 1921 . . . . .	£144 18 6	
Whereof due by Members who have compounded for life, and whose arrears are thereby extinguished . . . . .	£5 10 0	
Sums ordered to be written off . . . . .	90 0 0	
	<hr/>	95 10 0
		<hr/>
		49 8 6
3. INTERESTS AND DIVIDENDS—		
(1) Interests—		
On Heritable Bonds, less Income-tax . . . . .	£717 15 0	
On Railway Debenture and Preference Stocks, do. . . . .	1,245 0 2	
On Colonial Government Stocks, do. . . . .	335 15 11	
On Annuity Stocks, do. . . . .	35 9 6	
On Edinburgh Corporation Loans, do. . . . .	60 16 11	
On British Government Stocks, do. . . . .	868 4 10	
	<hr/>	£3,263 2 4
(2) Dividends, less Income-tax . . . . .	960 3 4	
	<hr/>	4,223 5 8
4. SUBSCRIPTIONS—		
Annual Subscriptions . . . . .	£2,430 18 0	
Life Subscriptions . . . . .	1,976 0 6	
	<hr/>	4,406 18 6
5. 'TRANSACTIONS' . . . . .	36 18 4	
6. INCOME-TAX repaid for year to 5th April 1922 . . . . .	1,384 14 5	
7. RECEIPTS from Edinburgh Show, 1919 . . . . .	31 0 0	
8. RECEIPTS from Stirling Show, 1921 . . . . .	376 4 2	
9. RECEIPTS from Dumfries Show, 1922 . . . . .	22,155 7 3	
10. TEMPORARY LOANS uplifted . . . . .	2,000 0 0	
	<hr/>	
SUM OF THE CHARGE . . . . .	£36,805 8 1	
	<hr/>	

EDINBURGH, 10th January 1923.

# AGRICULTURAL SOCIETY of SCOTLAND for Year 1921-1922.

## DISCHARGE.

<b>1. ESTABLISHMENT EXPENSES—</b>		
Salaries and Wages—Secretary, £1000; Chief Clerk, £600; other Clerks, £245, 16s. 8d.; Typist, £189, 3s. 4d.; Messenger, Wages, £170; Cleaning, £52; Retiring Allowance to Mrs Simpson, £20 . . . . .		£2,237 0 0
Feu-duty, £24, 10s.; Taxes, £110, 18s. 10d. . . . .		135 8 10
Coals, Gas, Electric Light, &c. . . . .		75 3 6
Repairs and Furnishings, £182, 19s. 7d.; Telephone and Telegrams, £34, 14s. 1d.; Insurance, £34, 9s. 10d.; Special Annuity Premiums, £85, 16s. . . . .		337 19 6
		<b>£2,785 11 10</b>
<b>2. FEE to Auditor of Accounts for 1920-1921 . . . . .</b>		<b>75 0 0</b>
<b>3. EDUCATION—</b>		
Forestry Examination . . . . .	£31 5 3	
N.D.A. Examination . . . . .	16 17 2	
		<b>48 2 5</b>
<b>4. CHEMICAL DEPARTMENT—</b>		
Fee to Chemist . . . . .	£100 0 0	
Analyses for Members and Expenses . . . . .	566 14 0	
		<b>666 14 0</b>
<b>5. VETERINARY DEPARTMENT—</b>		
Medals to Students . . . . .	£24 3 0	
Expenses in connection with Grass Sickness Investigation . . . . .	927 7 1	
		<b>951 10 1</b>
<b>6. BOTANICAL AND ENTOMOLOGICAL DEPARTMENT . . . . .</b>		<b>25 0 0</b>
<b>7. DAIRY DEPARTMENT—</b>		
Expenses of Examination held at Kilmarnock . . . . .	£251 0 9	
Less Entry Fees . . . . .	126 0 0	
		<b>125 0 9</b>
<b>8. SOCIETY'S 'TRANSACTIONS' . . . . .</b>		<b>2,035 5 0</b>
<b>9. ORDINARY Printing, £212, 7s. 3d.; Advertising, £48, 1s.; Stationery, Books, &amp;c., £230, 17s. 10d.; Postages, &amp;c., £215; Bank and Post Office Charges, £11, 0s. 3d. . . . .</b>		<b>717 6 4</b>
<b>10. SALARY to Consulting Engineer . . . . .</b>		<b>150 0 0</b>
<b>11. GRANTS to Public Societies . . . . .</b>		<b>58 3 0</b>
<b>12. MISCELLANEOUS Payments . . . . .</b>		<b>191 18 0</b>
<b>13. PLACED ON TEMPORARY LOAN . . . . .</b>		<b>4,000 0 0</b>
<b>14. EDINBURGH SHOW, 1919—Forfeited Prizes . . . . .</b>		<b>31 0 0</b>
<b>15. EXPENSES in connection with Aberdeen Show, 1920 . . . . .</b>		<b>6 15 0</b>
<b>16. EXPENSES in connection with Stirling Show, 1921 . . . . .</b>		<b>335 17 0</b>
<b>17. EXPENSES in connection with Dumfries Show, 1922—</b> Premiums, £3307, 15s.; Medals, £84, 15s. 6d.; Expenses as per page 387 of Show Account, £17,847, 0s. 9d. . . . .		<b>21,189 11 3</b>
<b>18. EXPENSES in connection with future Shows . . . . .</b>		<b>75 13 5</b>
<b>19. PREMIUMS and Medals for Local Shows and District Competitions . . . . .</b>		<b>545 2 0</b>
<b>20. CERTIFICATES and Medals for Long Service . . . . .</b>		<b>96 5 10</b>
<b>21. EXPENSES in connection with Tractor Trials at Dalkeith . . . . .</b>		<b>445 11 2</b>
<b>22. EXPENSES attending Conferences . . . . .</b>		<b>67 17 8</b>
<b>23. EXTRAORDINARY EXPENDITURE—</b>		
Grant to Joint Committee on Research in Animal Breeding . . . . .		500 0 0
<b>24. ARREARS removed from Subscription List at 30th November 1922 . . . . .</b>		<b>49 5 6</b>
<b>25. ARREARS outstanding at 30th November 1922 . . . . .</b>		<b>268 19 6</b>
<b>26. BALANCE at 30th November 1922—</b>		
With Royal Bank of Scotland—		
Edinburgh Account . . . . .	£1013 13 4	
London Account . . . . .	318 5 0	
	<b>£1,331 18 4</b>	
In hands of Secretary . . . . .	32 0 0	
		<b>1,363 18 4</b>
<b>SUM OF DISCHARGE . . . . .</b>		<b>£36,805 8 1</b>

HUGH SHAW STEWART, *Chairman of Directors.*  
J. T. M'LAREN, *Member of Finance Committee.*  
WM. HOME COOK, C.A., *Auditor.*



## ABSTRACT of the ACCOUNTS

## CHARGE.

1. LOCAL SUBSCRIPTIONS—		
Donation from Dumfries Town Council . . . . .	£50 0 0	
Subscription . . . . .	0 5 0	
		<u>£50 5 0</u>
2. AMOUNT COLLECTED DURING SHOW—		
Gates . . . . .	£8,784 5 3	
Grand Stand . . . . .	1,414 12 10	
Catalogues and Awards . . . . .	947 14 11	
Rent of Motor Garage and Tickets sold . . . . .	231 18 0	
Admission Tickets . . . . .	15 17 6	
Cloak-Rooms and Lavatories . . . . .	57 15 8	
		<u>11,452 4 2</u>
3. FORAGE SOLD . . . . .		15 9 1
4. RENT OF STALLS . . . . .		5,506 1 6
5. DO. REFRESHMENT BOOTHS . . . . .		350 0 0
6. ADVERTISEMENTS IN CATALOGUE AND PREMIUM LIST . . . . .		254 18 6
7. SUBSCRIPTIONS IN AID OF PREMIUMS . . . . .		537 0 0
8. TELEPHONE CALLS IN SHOWYARD . . . . .		37 16 6
9. BANK INTEREST . . . . .		17 11 0
10. PROCEEDS OF TIMBER SALE . . . . .		3934 1 6

£22,155 7 8

Note.—From the above balance of . . . . . £965 16 0  
Deduct Premiums undrawn at 30th November . . . . . 804 5 0

£661 11 0

To the above balance there falls to be added sums due by  
exhibitors for fitting up stands, amounting to . . . . . 428 16 2

Making probable surplus . . . . . £1090 7 2

EDINBURGH, 10th January 1923.

## of the DUMFRIES SHOW, 1922.

## DISCHARGE.

## 1. SHOWYARD—

Fitting up Yard (from which falls to be deducted sums to be received from Exhibitors, as per note on page 6)	£3,800	0	0
Board of Agriculture—Timber purchased	£7,198	11	2
Rent of Field, £360; Motor Garage, £170	530	0	0
		7,728	11 2
Insurance, £20, 5s.; Rosettes, £84, 7s.	£104	12	0
Penning Poultry, £22, 1s.; Cartage, £60, 10s. 9d.	82	11	9
Railway Carriage, £25, 13s. 9d.; Electric Light and Gas, £17, 16s. 3d.	43	10	0
Refreshments at Timber Sale	26	2	0
		256	15 9
New Front for Ladies Pavilion		250	0 0
Salary to Mr John Reid, Showyard Erector		500	0 0
2. FORAGE and Bedding for Stock		643	0 5
3. POLICE		116	0 4
4. TRAVELLING EXPENSES of Judges, Stewards, &c.		488	12 11
5. HOTEL AND LUNCHEONS—			
Hotel Bills for 24 Directors, 15 Stewards, and 38 Judges	£366	5	0
Luncheons in Showyard for Directors, Judges, Attending Members, Members of Committee, Staff, and Breakfasts, Rooms, &c.	503	19	11
		870	4 11
6. ASSISTANTS and Attendants		570	9 11
7. PRINTING, Members' Badges, and Stationery		1,499	13 2
8. ADVERTISING and Bill-posting		715	7 5
9. GRANT to Highland Industries		5	0 0
10. GRANT to Forestry Exhibition		20	0 0
11. VETERINARY INSPECTION		10	10 0
12. CONCERT for Attendants		5	3 0
13. SHOW TREASURER		50	0 0
14. POSTAGES		130	0 0
15. POST OFFICE and Telephones		52	0 5
16. AMBULANCE		10	10 0
17. MISCELLANEOUS PAYMENTS		125	1 4
		£17,847	0 9
18. PREMIUMS drawn at 30th November 1922		3,342	10 6
		£21,189	11 3
BALANCE		965	16 0
		£22,155	7 3

HUGH SHAW STEWART, *Chairman of Directors.*J. T. M'LAREN, *Member of Finance Committee.*WM. HOME COOK, C.A., *Auditor.*

# ABSTRACT of the ACCOUNTS of the CHARGE.

<b>I. FUNDS as at 30th November 1921—</b>		
Amount on Heritable Loan at 5½ per cent	£3,500	0 0
£3,198, 6s. 8d. North British Railway Company 3 per cent Debenture Stock, purchased at	2,650	0 0
£550 Lancashire and Yorkshire Railway Company 3 per cent Debenture Stock, purchased at	611	10 6
£500 Queensland 3½ per cent Inscribed Stock, 1950-70, pur- chased at	450	1 0
£300 Registered 5 per cent National War Bonds, 1922, "A" Account, purchased at	300	0 0
£190 London and North-Western Railway Company 4 per cent Guaranteed Stock, purchased at	259	1 11
£200 Temporary Loan with Edinburgh Corporation	200	0 0
	<u>£7,970</u>	<u>13 5</u>
BALANCE on Account Current with Royal Bank of Scotland	269	17 5
	<u>£8,240</u>	<u>10 10</u>
<b>II. INTEREST ON INVESTMENTS—</b>		
On £3,500 on Heritable Loan, at 5½ per cent, for year to Mar- tinas 1922	£192	10 0
Less tax	52	18 9
	<u>£139</u>	<u>11 3</u>
On £3,198, 6s. 8d. North British Railway Company 3 per cent Debenture Stock, for year to Martinmas 1922.	£95	16 0
Less tax	25	16 6
	<u>69</u>	<u>19 6</u>
On £550 Lancashire and Yorkshire Railway Company 3 per cent Debenture Stock, for half- year to 30th December 1921	£8	5 0
Less tax	2	9 6
	<u>5</u>	<u>15 6</u>
On £550 London and North-Western Railway Company 3 per cent Debenture Stock, for half-year to 30th June 1922	£8	5 0
Less tax	2	5 5
	<u>5</u>	<u>19 7</u>
On £500 Queensland 3½ per cent Inscribed Stock, 1950-70, for year	17	10 0
On £300 5 per cent Registered National War Bonds, 1922, for year	15	0 0
On £190 London and North-Western Railway Company 4 per cent Guaranteed Stock, for year to 30th June 1922	£7	12 0
Less tax	2	3 9
	<u>5</u>	<u>8 3</u>
On £200 Loan with Edinburgh Corporation for year to Martinmas 1922	£5	7 2
Less tax	1	6 9
	<u>£4</u>	<u>0 5</u>
On £200 do. from 11th to 27th November 1922	£0	3 6
Less tax	0	0 10
	<u>0</u>	<u>2 8</u>
	<u>4</u>	<u>3 1</u>
		<u>263</u>
		<u>7 2</u>
		<u>96</u>
		<u>10 1</u>
<b>III. INCOME-TAX repaid for year to 5th April 1922</b>		
<b>IV. INVESTMENTS Realised—</b>		
1922. Nov. 8. £100 5 per cent National War Bonds, 1922	£102	0 0
„ „ 27. Temporary Loan with Edin- burgh Corporation	200	0 0
	<u>£302</u>	<u>0 0</u>
<b>V. GAIN on Realisation of Investments</b>		<u>2 0 0</u>
<b>SUM OF CHARGE</b>		<u>£8,602</u>
		<u>8 1</u>

EDINBURGH, 10th January 1923.

# ARGYLL NAVAL FUND for the Year 1921-1922.

## DISCHARGE.

### I. ALLOWANCES to the nine following Recipients—

I. K. D. Hutchison (eighth year) . . . . .	£20 0 0
R. E. S. Hugonin (seventh year) . . . . .	40 0 0
E. C. G. Greenlees (seventh year) . . . . .	40 0 0
I. G. Maclean (seventh year) . . . . .	40 0 0
A. F. Campbell (fifth year) . . . . .	40 0 0
R. A. Forbes (third year) . . . . .	40 0 0
J. A. C. MacGregor (fourth half-year) . . . . .	20 0 0
J. H. Forbes (first half-year) . . . . .	20 0 0
D. G. Macintyre (first half-year) . . . . .	20 0 0
	<hr/>
	£280 0 0

### II. INVESTMENTS made—

1922. Nov. 23. £656, 16s. 3d. 3½ per cent	
Conversion Loan . . . . .	£501 13 10
	<hr/>

### III. FUNDS at 30th November 1922—

Amount on Heritable Loan at 5 per cent. . . . .	£3,500 0 0
£3,193, 6s. 8d. North British Railway Company	
3 per cent Debenture Stock, purchased at . . . . .	2,650 0 0
£656, 16s. 3d. 3½ per cent Conversion Loan,	
purchased at . . . . .	501 13 10
£550 London and North-Western Railway Com-	
pany 3 per cent Perpetual Debenture Stock,	
purchased at . . . . .	611 10 6
£500 Queensland 3½ per cent Inscribed Stock,	
1950-70, purchased at . . . . .	450 1 0
£190 London and North-Western Railway Com-	
pany 4 per cent Guaranteed Stock, purchased at . . . . .	259 1 11
£200 Registered 5 per cent National War Bonds,	
1922, "A" Account, purchased at . . . . .	200 0 0
	<hr/>
	£8,172 7 3

*Note.*—The above Funds are entered at cost price. The value at 30th November 1922 was £6920, 10s. 4d.

Balance on Account Current with Royal Bank	
of Scotland . . . . .	150 0 10
	<hr/>
	8,322 8 1

SUM OF DISCHARGE . . . . . £8,602 8 1

HUGH SHAW STEWART, *Chairman of Directors.*  
J. T. M'LAREN, *Member of Finance Committee.*  
WM. HOME COOK, C.A., *Auditor.*

## VIEW OF RECEIPTS AND PAYMENTS

### For the Year 1921-1922.

#### RECEIPTS.

1. ANNUAL SUBSCRIPTIONS AND ARREARS received . . . . .	£2,162	1	6
2. LIFE SUBSCRIPTIONS . . . . .	1,976	0	6
3. INTERESTS AND DIVIDENDS—			
Interests . . . . .	£3,263	2	4
Dividends . . . . .	960	3	4
		4,223	5 8
4. 'TRANSACTIONS' . . . . .		36	18 4
5. INCOME-TAX repaid for year to 5th April 1922 . . . . .		1,384	14 5
6. RECEIPTS from Edinburgh Show, 1919 . . . . .		31	0 0
7. RECEIPTS from Stirling Show, 1921 . . . . .		376	4 2
8. RECEIPTS from Dumfries Show, 1922 . . . . .		22,155	7 3
		£32,345	11 10

#### PAYMENTS.

1. ESTABLISHMENT EXPENSES—			
Salaries and Wages . . . . .	£2,237	0	0
Fen-duty, Taxes, Coals, Gas, Insurance, Repairs and Furnishings . . . . .	548	11	10
		£2,785	11 10
2. FEE TO AUDITOR of Accounts, 1920-1921 . . . . .	75	0	0
3. EDUCATION . . . . .	48	2	5
4. CHEMICAL DEPARTMENT . . . . .	666	14	0
5. VETERINARY DEPARTMENT . . . . .	951	10	1
6. BOTANICAL AND ENTOMOLOGICAL DEPARTMENT . . . . .	25	0	0
7. DAIRY DEPARTMENT . . . . .	125	0	9
8. SOCIETY'S 'TRANSACTIONS' . . . . .	2,035	5	0
9. ORDINARY Printing, Advertising, Stationery, Books, Postages, and Bank Charges . . . . .	717	6	4
10. SALARY to Consulting Engineer . . . . .	150	0	0
11. GRANTS to Public Societies . . . . .	58	3	0
12. MISCELLANEOUS Payments . . . . .	191	18	0
13. EDINBURGH SHOW, 1919—Forfeited Prizes . . . . .	31	0	0
14. EXPENSES in connection with Aberdeen Show, 1920 . . . . .	6	15	0
15. EXPENSES in connection with Stirling Show, 1921 . . . . .	335	17	0
16. EXPENSES in connection with Dumfries Show, 1922—			
Premiums . . . . .	£3,342	10	6
General Expenses . . . . .	17,847	0	9
		21,189	11 3
17. EXPENSES in connection with future Shows . . . . .	75	13	5
18. PREMIUMS AND MEDALS for Local Shows and District Competitions . . . . .	545	2	0
19. CERTIFICATES AND MEDALS for Long Service . . . . .	96	5	10
20. EXPENSES in connection with Tractor Trials at Dalkeith . . . . .	445	11	2
21. EXPENSES attending Conferences . . . . .	67	17	8
22. EXTRAORDINARY EXPENDITURE—Donation . . . . .	500	0	0
		81,123	4 9
BALANCE OF RECEIPTS . . . . .	£1,222	7	1

HUGH SHAW STEWART, *Chairman of Directors.*  
 J. T. M'LAREN, *Member of Finance Committee.*  
 WM. HOME COOK, C.A., *Auditor.*

EDINBURGH, 10th January 1923.

## PROCEEDINGS AT BOARD MEETINGS.

### MEETING OF DIRECTORS, 5TH APRIL 1922.

Sir HUGH SHAW STEWART, C.B., of Greenock and Blackhall, Bart., in the Chair.

*Present.*—*Vice-President*—Charles Brook of Kinmount. *Ordinary Directors*—Mr David Ferrie; Mr W. P. Gilmour; Mr James Grieve; Mr Thomas Kirk; Mr Andrew B. Leitch; Mr William Low; Mr James R. Lumsden; Mr James M'Laren; Mr J. T. M'Laren; Captain Robert Macmillan; Mr James M'Queen; Mr William Meiklem; Colonel J. L. Reid; Mr Alexander Robertson; Mr John P. Sleigh; Mr R. A. Smith; Major Mark Sprot; Sir Hugh Shaw Stewart, Bart., C.B.; Mr Phipps O. Turnbull; Mr George Will. *Extraordinary Directors*—Colonel F. J. Carruthers; Mr Alexander Cowan; Mr John Elliot; Mr Alexander Forbes; Mr F. N. M. Gourlay; Mr John M'Caig; Mr Hugh Martin; Mr Robert Park; Mr R. Jardine Paterson; Mr James Phillips; Mr William Poole; Mr G. Bertram Shields; Mr Moffat S. Thomson. *Hon. Secretary*—Mr Charles Douglas, D.Sc., C.B. *Hon. Treasurer*—Sir David Wilson, Bart.

#### *Ratepayers' Central Organisation.*

A letter was submitted from Mr Peter P. Campbell, Honorary Secretary of the recently formed Ratepayers' Central Organisation, setting forth the objects of the organisation, and requesting the Society to contribute to a fund to meet the expenses of the work it was proposed to undertake. The letter was remitted to the Law and Parliamentary Committee for consideration and report.

#### *Locomotives on Highways.*

A letter was submitted from the Board of Agriculture for Scotland inviting the views of the Society as to the proposed revocation by the Ministry of Transport of the Locomotives on Highways (Construction of Wheels) (Scotland) Order, 1917, which permitted the use of studs on wheels of locomotives drawing threshing-mills on frost-bound roads.

After full discussion, which was taken part in by Mr Charles Douglas, Mr W. P. Gilmour, Col. F. J. Carruthers, Sir David Wilson, Bart., and Mr P. O. Turnbull, it was moved by Mr CHARLES DOUGLAS, seconded by Col. F. J. CARRUTHERS, and agreed to, that a reply be sent to the effect that the Directors did not wish the order repealed, but requesting the Board of Agriculture, in the event of the order being cancelled, to urge upon the Ministry of Transport the desirability of permitting local road authorities, at their discretion, to grant permission in particular cases for the use of studs on wheels of locomotives.

#### *Research in Animal Breeding.*

As agreed upon at last Meeting, a deputation was received from the Edinburgh University and College of Agriculture Joint Committee on Research in Animal Breeding. The deputation consisted of Professor Sir E. Sharpey Schäfer, Mr John Elliot, Mr J. R. O. Smith, Dr F. A. E. Crew, and Mr Alexander M'Callum, and was introduced by Mr John Elliot, who commended the objects of the Committee to the favourable consideration of the Board.

Sir E. S. Schäfer said the Joint Committee was formed a few years ago to in-

investigate the conditions of animal breeding, to make experiments on the subject, and to get the results of these experiments applied practically. They were supported by the Development Commission, but that body had lately laid down the principle that they would give money only if other sums were raised locally. They would provide two-thirds if the Joint Committee could raise a third from other sources. That was the main reason of their attending that afternoon. It was not, however, the only reason. They wished to get the sympathy and co-operation of agriculturists generally in their work. He then dealt at some length with the scientific aspects of the problem of breeding which they hoped to investigate.

Mr J. R. C. Smith also spoke in support of the appeal for financial assistance, and for a real interest by the Society in the work of the Committee.

The CHAIRMAN thanked the deputation for their attendance, and assured them that the matter would receive the most careful consideration.

After the deputation had withdrawn, it was agreed, on the motion of the CHAIRMAN, that the matter be remitted to the Finance Committee for consideration and report.

#### *Vacancy on Board.*

On the motion of Mr J. T. M'LAREN, seconded by Mr P. O. TURNBULL, it was agreed to nominate Lieut.-Colonel Sir John A. Hope, M.P., of Craighall, Bart., Pinkie House, Musselburgh, as an Ordinary Director of the Society, to fill the vacancy caused by the resignation of the Marquess of Linlithgow.

#### *Dumfries Show, 1922.*

*Attending Members.*—The following Directors were appointed as Attending Members: *Shorthorn*—T. A. Buttar and G. B. Shields; *Aberdeen-Angus*—Alexander Robertson and George Will; *Galloway*—Major C. R. Dudgeon and A. B. Leitch; *Highland*—R. A. Smith; *Ayrshire*—W. P. Gilmour and Thomas Kirk; *British Friesian*—Colonel J. L. Reid; *Red Poll*—R. Jardine Paterson; *Belted Galloways* and *Blue-Greys*—James Phillips; *Draught Stallions*—Charles Douglas, D.Sc., C.B., and John Spier; *Mares*—William Meiklem and Robert Park; *Hunters*—Colonel F. J. Carruthers and Sir Kenneth Mackenzie, Bart.; *Hackneys, Ponies, and Harness Horses*—M. S. Thomson; *Highland Ponies*—John P. Sleigh; *Western Island Ponies*—J. G. M'Myn; *Shetland Ponies*—William Low; *Blackface*—F. N. M. Gourlay and James M'Laren; *Cheviot*—James Grieve; *Border Leicester*—J. Bryce Duncan and Major Mark Sprot; *Half-Bred*—C. W. Ralston; *Oxford Down*—A. M. Montgomery; *Suffolk*—Lieut.-Col. W. T. R. Houldsworth; *Goats*—J. T. M'Laren; *Large White Pigs*—William Poole, J.P.; *Middle White*—Alexander Cowan; *Berkshire*—H. B. Marshall; *Large Black*—Provost T. S. Macaulay, O.B.E.; *Gloucestershire Old Spots*—Sir David Wilson, Bart.; *Cumberland*—Colonel Charles Brook; *Poultry*—Dr J. F. Tocher; *Wool*—John Elliot.

*Local Committee.*—The SECRETARY reported that, at a Meeting of Local Directors held at Dumfries on 15th March, Members of the Local Committee of Management from the Dumfries Show Division had been appointed.

*Dun Galloways.*—A letter was submitted from Mr N. H. Constable, Bute Estate Office, Rothesay, inquiring as to whether Dun Galloways entered in the Herd-Book of the Dun and Belted Galloway Cattle Breeders' Association would be eligible for competition in the Ordinary Galloway Classes, although not registered or eligible for entry in the Herd-Book of the Galloway Cattle Society. After discussion, it was agreed that the reply to be sent must be in the negative.

*Pony Mares.*—Letters were submitted from Mr J. H. Munro Mackenzie of Calgary, and Mr Charles Weatherill, of the Board of Agriculture for Scotland, asking whether it would be possible to provide a class for Mountain and Moorland Mares of all breeds entered in the several sections of the National Pony Stud-Book. It was decided that, as the Prize List was issued, it was now too late to take any action in this direction.

*Blue-Grey Cattle.*—Mr JAMES PHILLIPS moved that, in order to protect the interests of the Galloway Cattle Society, which is providing the prize-money, all entries for the Blue-Grey Classes should be accompanied by a declaration that the animal entered is a first cross from a Shorthorn Bull and Galloway Cow, or Galloway Bull and Shorthorn Cow.

The motion was seconded by Mr JOHN M'CAIG, and agreed to.

#### *Summer Time.*

Mr DAVID FERRIE of Parbroath, Cupar-Fife, and Mr JAMES PHILLIPS, Carse, Kirkcudbright, reported on the deputation to the Home Secretary and the Secretary for Scotland in connection with the question of Summer Time. They stated that it

was unfortunate that the Cabinet had already decided the question before the deputation was received. A promise was, however, obtained that the whole matter would be reconsidered for next year.

*Wart Disease in Potatoes.*

It was reported that the deputation appointed at last Meeting had had an interview with the Chairman and other Members of the Board of Agriculture for Scotland with regard to the proposed Order by the Ministry of Agriculture and Fisheries relating to the importation of Scottish-grown potatoes into England. A letter was read from the Board of Agriculture for Scotland, in which it was stated that it had now been announced that "the proposed regulations referred to are still under consideration by the Minister's Advisory Committees. It is unlikely that any decision will be arrived at in time to issue new regulations which may affect the distribution of the 1922 crop, or, therefore, that any change in the 1921 regulations will be made. The Ministry can, however, inform potato growers that no restrictions additional to those operating in 1921 will be imposed which will affect the distribution of the 1922 potato crop or of the entry into England and Wales of seed potatoes produced during 1922 in Scotland or Ireland."

*Implements.*

A Minute of Meeting of Implements Committee, dated 5th April, was submitted and approved.

The Minute dealt with the following matters:—

*Turnip-Lifting Machine.*—Mr WILLIAM LOW of Balmakewan had, as requested, submitted a report on Messrs Smith & Wood's Turnip-Lifting Machine, which showed that the machine had been improved in various details. It was decided to defer consideration in the meantime of the proposal to hold a Trial of Turnip-Lifting Machines.

*Non-Slip Horse-Shoes.*—The Committee had considered letters from Mr Joseph Campbell, Mill of Haldane, Balloch, with regard to his Non-Slip Horse-Shoe, and had also examined a collection of the various types of shoes which he had sent in for their inspection. It was decided to recommend that it be remitted to the following Committee to communicate with Mr Campbell, and arrange to see horses fitted with the shoes at work, and also to obtain information from users of the shoe as to its effectiveness—Mr James R. Lumsden, *Convener*; Sir David Wilson, Bart.; Mr John Spier, and Mr James M'Laren.

*Payment of Directors' Travelling Expenses.*

Mr A. B. LEITCH, Inchstelly, Alves, Forbes, submitted the following Motion, which appeared under his name on the Agenda:—

"That the Directors consider the advisability of the payment by the Society of first-class railway fares to Directors when attending Meetings of the Society."

Mr R. A. SMITH, Wester Lovat, seconded the Motion, which was agreed to.

Mr CHARLES DOUGLAS, D.Sc., C.B., moved, and Sir DAVID WILSON, Bart., seconded, that the matter be remitted to the Finance Committee for consideration and report.

Colonel F. J. CARRUTHERS suggested that the words "third-class" be substituted for the words "first-class" in the Motion. Sir David Wilson stated that the Finance Committee would prepare a statement of the cost to the Society of both first-class and third-class railway fares, and report to the Board.

The remit was then agreed to.

*Expenditure on Education.*

A letter was submitted from the Secretary of the Scottish Land and Property Federation, enclosing copy of letter sent by the Federation to the Chancellor of the Exchequer with regard to the need for economy in Education expenditure. It was agreed that this communication be remitted to the Law and Parliamentary Committee for consideration and report.

*Imperial and Local Taxation.*

A letter was submitted from the Secretary of the Glasgow Agricultural Society, forwarding copy Resolution calling for an equitable rearrangement of taxation. It was agreed to remit this communication to the Law and Parliamentary Committee for consideration and report.



## MEETING OF DIRECTORS, 3RD MAY 1922.

Sir HUGH SHAW STEWART, C.B., of Greenock and Blackhall, Bart., in the Chair.

*Present.—Ordinary Directors*—Mr Thomas A. Buttar; Mr David Ferrie; Mr James Grieve; Lieut.-Col. W. T. R. Houldsworth; Mr J. Ernest Kerr; Mr Thomas Kirk; Mr Andrew B. Leitch; Mr James R. Lumsden; Mr James M'Laren; Mr J. T. M'Laren; Captain Robert Macmillan; Mr H. B. Marshall; Mr William Meiklem; Colonel J. L. Reid; Mr Alexander Robertson; Mr John Speir; Major Mark Sprot; Sir Hugh Shaw Stewart, Bart., C.B.; Mr Phipps O. Turnbull. *Extraordinary Directors*—Colonel F. J. Carruthers; Mr Alexander Cowan; Mr F. N. M. Gourlay; Mr John M'Craig; Mr Hugh Martin; Mr Robert Park; Mr R. Jardine Paterson; Mr C. W. Ralston; Mr G. Bertram Shields. *Hon. Secretary*—Mr Charles Douglas, D.Sc., C.B. *Hon. Treasurer*—Sir David Wilson, Bart. *Consulting Engineer*—Professor R. Stanfield. *Consulting Chemist*—Dr J. F. Tocher.

*The late A. F. Irvine of Drum.*

Before proceeding with the business of the Meeting the CHAIRMAN made sympathetic reference to the death of Mr A. F. Irvine of Drum, who had been a Director of the Society for a period of six years from 1915 to 1920. Although severely wounded in the war, this had not prevented him from doing much good work for his County; and, as a Director of this Society, he was always ready to give his best services in connection with the Annual Show.

The Chairman submitted the terms of a Resolution of regret and sympathy, which was approved, the members present upstanding, and the Secretary was instructed to forward a copy thereof to the widow of the deceased.

*Letters.*

Letters were read from (1) the National Farmers' Union of Scotland, and (2) the Scottish Farm Servants' Union, thanking the Society for free sites for their pavilions in the Showyard, Dumfries.

*St Kilda Fund.*

A letter was read from Mr D. Cameron, The Manse, St Kilda, conveying the thanks of the Islanders to the Directors for granting their request for a supply of Seed Potatoes and Seed Oats.

*Dumfries Show.*

*Dumfries Town Council.*—A letter was read from the Town Clerk of Dumfries, stating that the Town Council had agreed to make a contribution from the Common Good Fund of a sum of £50 towards the Show expenses. It was further stated that an endeavour was being made to raise a Voluntary Fund towards the expenses of renting the Showground.

*Dumfries Water Commission.*—A letter was read from the Dumfries Water Commissioners, agreeing to grant the Society a supply of water for the Show free of charge.

*Veterinary Examination of Colts.*—A letter was read from Mrs Etta Duffus, suggesting that in the class for Shetland Colts foaled in 1919 or 1920, if an exhibitor gives a declaration at time of entry that the colt is not to be used for stud purposes in 1922, Rule 39, which requires the production of a licence from the Board of Agriculture, &c., should not apply. It was unanimously decided that this suggestion be not agreed to.

*Horse-Shoeing Competition.*—The following Directors were appointed to act, with three representatives of the Local Farriers' and Blacksmiths' Associations, as a Committee of Superintendence for the Horse-Shoeing Competition,—Mr Robert Park, Mr John Speir, and Mr George Will.

*Showyard Work.*—The SECRETARY reported that the work of erecting the Showyard buildings was being proceeded with.

*Scottish National War Memorial.*—A letter was submitted from the Duke of Atholl, Chairman of Committee of the Scottish National War Memorial, requesting permission to take a collection in the Showyard during the Show, in aid of the funds of the Memorial.

Sir DAVID WILSON, Bart., pointed out that such applications had always been refused, because, if any were granted, it would form a precedent, and it would be extremely difficult for the Directors to discriminate between the different applications received. He moved that the application be not granted, and this was unanimously agreed to.

*Lockerbie Agricultural Society.*—A letter was read, intimating that Lockerbie Agricultural Society would hold their Show this year in October. It was accordingly agreed that that Society receive the £12 grant to which they were entitled for the current year.

*Ratepayers' Central Organisation, &c.*

A Minute of Meeting of Law and Parliamentary Committee, dated 3rd May, was read and approved.

The Minute stated that in accordance with the remit from the Board at last Meeting, the Committee considered the letter of 28th March from the Secretary of the Ratepayers' Central Organisation, making application to the Society to contribute to a fund to cover the expenses of forming and carrying on the Organisation. The Committee felt that they were not in possession of sufficient information regarding the objects and conditions of membership of the Organisation to arrive at a decision; and the Secretary was instructed to write and obtain information with regard to various points mentioned. The matter will be further considered when this information is received.

The Committee also considered a letter from the Scottish Land and Property Federation, enclosing copy of a letter sent by that Federation to the Chancellor of the Exchequer with regard to Education expenditure; and also a letter from the Secretary of the Glasgow Agricultural Society enclosing copy of a Resolution relating to the need of modification of Income Tax and other Taxes, and for an equitable rearrangement of Imperial and Local Taxation. The Committee considered that circumstances had materially altered since these letters were received, and the Committee agreed to recommend that no action be taken.

*Classification of Shorthorns.*

A letter was submitted from Mr W. F. M'Laren, Honorary Secretary of the Scottish Central Shorthorn Breeders' Association, suggesting an extension of the classes for two-year-old and one-year-old Shorthorns at the Annual Show. A discussion followed, which was taken part in by Mr J. T. M'Laren, Mr T. A. Buttar, and Colonel J. L. Reid.

On the motion of Colonel F. J. CARRUTHERS, the letter was remitted to the Shows Committee for consideration and report.

*Importation of Stock from Ireland.*

A letter was read from the English Guernsey Cattle Society, containing the terms of a resolution adopted by that Society, urging the Government to forbid the importation of stock into Great Britain from Ireland, and suggesting that this Society adopt a similar resolution.

The CHAIRMAN pointed out that a Departmental Committee, of which Mr David Ferrie was a member, was at present considering the question of the importation of cattle, and it was accordingly decided that no action be taken in the meantime.

*Show of 1925.*

A letter was submitted from Sir John Lindsay, Town-Clerk of Glasgow, stating that the Corporation, at a recent meeting, had approved of a recommendation that the Highland and Agricultural Society be invited to hold their Annual Show in Glasgow in 1925; and that it had been remitted to the five Senior Magistrates to take such steps as might be necessary in connection with the matter. It was suggested that a meeting between them and the Directors of this Society should be arranged, with a view to discussing the arrangements which would require to be made.

The CHAIRMAN said that he had received a letter from the Secretary of the Glasgow Agricultural Society, suggesting that the Show be held at Scotstoun Showground.

The SECRETARY pointed out that, in ordinary course, the Directors would shortly have had to consider the appointment of a Committee to look out for a suitable site for the Show of 1925, and report to the Board.

After discussion, it was agreed that a Committee be appointed for this purpose, it being understood that this Committee would meet with the representatives of the

Corporation of Glasgow, and consider any proposals they might put forward for a suitable site in that city. The Committee was then appointed as follows: Sir Hugh Shaw Stewart, Bart., *Convener*, Mr Charles Douglas, D.Sc., C.B., Colonel F. J. Carruthers, Mr John Speir, Lieut-Col. W. T. R. Houldsworth, Mr David Ferrie, Mr P. O. Turnbull, Mr J. T. M'Laren, and Mr G. B. Shields.

#### *Finance.*

A Minute of Meeting of Finance Committee, dated 3rd May, was submitted and approved.

The Minute dealt with the following matters:—

*Joint Committee on Animal Breeding.*—In accordance with the remit from the Board at last Meeting, the Committee had considered the application for financial support from the Edinburgh University and College of Agriculture Joint Committee on Research in Animal Breeding. The Directors were informed by the deputation which was received at last meeting that Government will provide an amount equivalent to twice the sum which the Joint Committee may raise by voluntary subscriptions. On this understanding, it was recommended that a grant of £500 be given.

*Payment of Directors' Railway Fares.*—In accordance with the remit from the Board, the Committee had prepared and submitted a statement of information with regard to the probable cost to the Society of the payment of Directors' railway fares. This represented a total liability for the current year of the following amounts: first-class fares, £729, 13s. 4d., third-class, £420, 10s. 4d.

Mr A. B. LEITCH moved that it be a recommendation to the General Meeting that the Society agree to the Directors receiving payment of first-class railway fares when attending Meetings of the Board of Directors.

The motion was not seconded, and the matter accordingly dropped.

#### MEETING OF DIRECTORS, 7TH JUNE 1922.

Sir HUGH SHAW STEWART, C.B., of Greenock and Blackhall, Bart., in the chair.

*Present.*—*Ordinary Directors*—Mr David Ferrie; Mr W. P. Gilmour; Mr James Grieve; Mr Andrew B. Leitch; Mr William Low; Mr James R. Lumsden; Mr J. T. M'Laren; Mr H. B. Marshall; Colonel J. L. Reid; Mr John Speir; Major Mark Sprot; Sir Hugh Shaw Stewart, Bart., C.B.; Mr Phipps O. Turnbull; Mr George Will. *Extraordinary Directors*—Colonel F. J. Carruthers; Mr Alexander Cowan; Mr John Elliot; Mr F. N. M. Gourlay; Mr John M'Caig; Mr Robert Park; Mr R. Jardine Paterson; Mr James Phillips; Mr C. W. Ralston; Mr G. Bertram Shields. *Hon. Secretary*—Charles Douglas, D.Sc., C.B. *Treasurer*—Sir David Wilson, Bart. *Auditor*—W. Home Cook. *Consulting Engineer*—Professor R. Stanfield. *Consulting Chemist*—Dr J. F. Tocher.

#### *The late Mr Robert Macdiarmid.*

Before proceeding with the business of the Meeting, the CHAIRMAN referred in sympathetic terms to the death of Mr Robert Macdiarmid, Corries, Lochawe, an Extraordinary Director, and a member of a well-known agricultural family which had a long connection with the Society, and moved that a resolution be engrossed in the Minutes expressing the deep regret with which the Directors received intimation of his death, and their sense of the valuable services which he had rendered to the Society.

The resolution was unanimously adopted, the members present upstanding, and the Secretary was instructed to send an extract thereof to the relatives of the deceased.

#### *Letters.*

*The late A. F. Irvine of Drum.*—A letter was read from Mrs Irvine, thanking the Directors for their expression of sympathy with herself and family in their recent bereavement.

*Black Isle Farmers' Society.*—On an application from the Black Isle Farmers' Society, it was agreed to sanction the award of part of that Society's £12 grant for the current year as prizes for cross-bred calves and one-year-old cattle.

*Dumfries Show.*

**New Implements.**—On the motion of Mr P. O. TURNBULL, Convener of the Implements Committee, the following were reappointed Judges of New Implements for the Society's Silver Medal: Mr A. B. Leitch, Inchstelly, Alves, Forres; Mr G. B. Shields, Dolphingstone, Tranent; and Mr John Speir, Newton Farm, Newton, Glasgow.

**Horse-Shoeing Competition.**—The following representatives of the Local Farriers' and Blacksmiths' Associations were appointed to act, along with three Directors appointed at last meeting, on the Committee of Superintendence of the Horse-Shoeing Competition—Mr John Bryden, Bowhouses, Terregles; Mr Adam Hetherington, Amisfield; and Mr James Irving, Shakespeare Street, Dumfries.

**Supply of Gas.**—The SECRETARY submitted correspondence which had passed between him and the Gas Manager and the Provost of Dumfries with regard to a supply of gas to the Showyard. From this it appeared that the Society would either require to make a considerable contribution towards the cost of laying a main pipe to the ground, or the standholders desiring a supply of gas would be charged a proportion of the cost of the pipe. As the Society was not prepared to contribute to the cost of a main pipe, it appeared that standholders would be liable to very heavy charges for their supplies.

After discussion, it was agreed that the matter be remitted to a small Sub-Committee consisting of Colonel R. F. Dudgeon, Colonel F. J. Carruthers, and Mr George Will, with a view to arriving at a suitable arrangement.

**West of Scotland Agricultural College.**—An application was submitted from the West of Scotland Agricultural College for a free stand 110 feet in length. The Secretary explained that in allocating free stands, the Directors had granted a stand of only 60 feet to the College. The stands had now been erected, and there would be difficulty in increasing the space allowed to the College. After discussion, it was agreed to leave to the Consulting Engineer and the Secretary to see what could be done in the matter.

*Joint Committee on Animal Breeding.*

On the motion of the CHAIRMAN, it was unanimously decided to confirm the recommendation agreed to at last Meeting, that a grant of £500 be given to the Edinburgh University and College of Agriculture Joint Committee on Research in Animal Breeding.

*Ratepayers' Central Organisation, &c.*

A Minute of Meeting of Law and Parliamentary Committee, dated 7th June, was submitted and approved.

The Minute recommended:—

**Ratepayers' Central Organisation.**—That a reply be sent to the application for a contribution towards the expenses of forming and carrying on the proposed Ratepayers' Central Organisation, to the effect that the Society regrets it cannot see its way to subscribe to the funds of the Organisation.

**Railway Rates.**—That the Society agree to guarantee a sum of £10, 10s. towards the expenses of the Joint Committee of British Breeders of Pure-Bred Live Stock, in employing Solicitor and Counsel to appear before the Railway Rates Tribunal and Railway Rates Advisory Committee, on the understanding that the representations of the Joint Committee be not confined to Show or Pedigree Stock, but apply to Stock in general.

*Non-Slip Horse-Shoe.*

A Minute of Meeting of Implements Committee, dated 7th June, was submitted and approved.

The Minute reported that Mr Joseph Campbell's Non-Slip Horse-Shoe would be exhibited at the Dumfries Show as a New Implement, in competition for the Society's Silver Medal.

*Argyll Naval Fund.*

A Minute of Meeting of Argyll Naval Fund Committee, dated 7th June, was submitted and approved.

The Minute recommended that the following two appointments be made to the list of beneficiaries—Donald George Macintyre and John Hay Forbes.

*'Transactions.'*

A Minute of Meeting of Publications Committee, dated 7th June, was read and approved.

The Minute recommended payments to writers of articles in the current volume of 'Transactions,' amounting to £224, 10s.

*Proposed Show Reserve Fund.*

Mr CHARLES DOUGLAS, D.Sc., C.B., submitted the following Motion, which appeared under his name on the Agenda:—

"That it be remitted to the Finance Committee to consider and report on the advisability of creating a Special Reserve Fund in connection with the Society's Show."

He said the primary reason for making this suggestion was the inevitably unsatisfactory nature of their budgeting each year. They could not foretell what the financial results of their Shows might be. They could not really form any estimate of the cost of a Show which was worth considering, so that their budget became practically meaningless. If they had a Reserve Fund they could budget more accurately for the expenses of each year.

Sir DAVID WILSON, Bart., seconded, and the remit was agreed to.

*Joint Committee on Research in Animal Nutrition.*

An application was submitted for a Grant towards the Capital Funds required to complete the buildings and equipment necessary for the work of the National Institution for Research in Animal Nutrition. The application was remitted to the Finance Committee for consideration and report.

*Increased Classes for Aberdeen-Angus Cattle.*

A representation from the Aberdeen-Angus Cattle Society, that increased classes be provided in the Aberdeen-Angus Cattle Section at the Show, was remitted to the Shows Committee for consideration and report.

*New Members.*

The SECRETARY reported that there was a list of 339 candidates for election as members of the Society at the half-yearly General Meeting to be held that afternoon.

MEETING OF DEPUTATION OF DIRECTORS HELD IN SHOWYARD,  
DUMFRIES, 19TH JULY 1922.

Sir HUGH SHAW STEWART, C.B., of Greenock and Blackhall, Bart., in the Chair.

*Present.—Ordinary Directors*—Mr Thomas A. Buttar; Mr William Donald; Mr David Ferrie; Mr W. P. Gilmour; Mr James Grieve; Lieut.-Col. W. T. R. Houldsworth; Mr J. Ernest Kerr; Mr Thomas Kirk; Mr Andrew B. Leitch; Mr William Low; Mr James R. Lumsden; Mr James M'Laren; Mr J. T. M'Laren; Mr Robert Macmillan; Mr James M'Queen; Mr H. B. Marshall; Mr William Meiklem; Colonel John L. Reid; Mr Alexander Robertson; General Sir Walter Charteris Ross; Mr John P. Sleigh; Mr R. A. Smith; Mr John Speir; Major Mark Sprot; Sir Hugh Shaw Stewart, C.B., Bart.; Mr Phipps O. Turnbull. *Extraordinary Directors*—Colonel F. J. Carruthers; Mr Alexander Cowan; Mr John Elliot; Provost Thomas S. Macaulay, O.B.E.; Mr J. G. M'Myn; Mr Hugh Martin; Mr Robert Park; Mr R. Jardine Paterson; Mr William Poole; Mr C. W. Ralston; Mr G. Bertram Shields; Mr Moffat S. Thomson. *Hon. Secretary*—Charles Douglas, D.Sc., C.B. *Consulting Engineer*—Professor R. Staunfield.

*Protests*

The CHAIRMAN stated that no Protests had been lodged.

*Precepts.*

The Chairman was authorised to sign the Precepts for the prizes awarded at the Dumfries Show.

*Knockbrev Challenge Cup.*

It was agreed that the offer by Mrs Brown of Knockbrev, of a Champion Challenge Cup, value £50, to be offered each year for the best Belted Galloway Animal, be accepted. The Cup would be handed over to the Society at the General Meeting following.

*Grant to Ambulance Association.*

It was decided that a donation of £10, 10s. be given to the funds of the Local Branch of the St Andrew's Ambulance Association, in recognition of services of members of that Association within the Showyard.

MEETING OF DIRECTORS, 1st NOVEMBER 1922.

Sir HUGH SHAW STEWART, C.B., of Greenock and Blackhall, Bart., in the Chair.

*Present.*—*Vice-President*—Sir Kenneth Mackenzie of Gairloch, Bart. *Ordinary Directors*—Mr Thomas A. Buttar; Colonel F. J. Carruthers; Mr W. P. Gilmour; Mr James Grieve; Colonel Sir John A. Hope, Bart., M.P.; Lieut.-Col. W. T. R. Houldsworth; Mr Thomas Kirk; Mr Andrew B. Leitch; Mr James R. Lumsden; Mr J. MacGillivray; Mr Duncan M'Laren; Mr James M'Laren; Mr J. T. M'Laren; Mr James M'Queen; Mr H. B. Marshall; Mr William Meiklem; Mr Alexander Murdoch; Mr Alexander Robertson; Mr James Rodger; Mr G. Bertram Shields; Mr John P. Sleigh; Mr R. A. Smith; Mr John Speir; Major Mark Sprot; Sir Hugh Shaw Stewart, Bart., C.B.; Mr John Stewart; Mr Falconer L. Wallace. *Extraordinary Directors*—Mr Alexander Cowan; Mr J. Ernest Kerr; Mr John M'Caig; Mr Robert Macmillan; Mr Ralph S. M'William; Mr Walter Mundell; Mr William Poole; Mr John Robson, jun.; Mr James Scott; Mr Phipps O. Turnbull. *Hon. Secretary*—Charles Douglas, D.Sc., C.B. *Treasurer*—Sir David Wilson, Bart. *Consulting Engineer*—Professor R. Stanfield. *Consulting Chemist*—Dr J. F. Tocher.

*The late Mr James Durno.*

The CHAIRMAN referred to the loss which the Society had sustained through the death in July of Mr James Durno, of Upper Mill, Tarves, a member of the Board of Directors. He was a man of outstanding ability in agricultural affairs, his name being associated in an eminent degree with the breeding of Shorthorn cattle and Clydesdale horses. The Chairman moved that a resolution be engrossed in the Minutes, expressing the deep regret with which the Directors received intimation of his death; and their sense of the valuable services which he had rendered to the Society.

The resolution was unanimously adopted, the members present upstanding, and the Secretary was instructed to send an extract thereof to Mrs Durno and the family of the deceased.

*The late Marquis of Breadalbane.*

The CHAIRMAN also made sympathetic reference to the death of the Marquis of Breadalbane, K.G., a distinguished member of the Society, and President in the year 1896, who had rendered many valuable services to the cause of agriculture. A resolution of regret and sympathy was unanimously adopted, the members present upstanding, and the Secretary was instructed to forward an extract thereof to the Marchioness of Breadalbane.

*Chairman of the Board for 1922-23.*

On the motion of Mr CHARLES DOUGLAS, D.Sc., C.B., of Auchlochan, seconded by Sir David Wilson, Bart., of Carbeth, Sir Hugh Shaw Stewart, C.B., of Greenock and Blackhall, Bart., was unanimously re-elected Chairman of the Board for the ensuing year.

Sir HUGH SHAW STEWART, in accepting office, thanked the Directors for the high honour which they had conferred upon him.

*Representatives on other Bodies.*

The following were appointed representatives of the Society on the Boards of the undernoted institutions for the ensuing year—viz.: *Edinburgh and East of Scotland College of Agriculture*—John Stirton, Secretary, Highland and Agricultural Society. *West of Scotland Agricultural College*—Sir Hugh Shaw Stewart, C.B., of Greenock and Blackhall, Bart., Ardgowan, Greenock. *Aberdeen and North of Scotland College of Agriculture*—Dr J. F. Tocher, 41½ Union Street, Aberdeen. *Royal (Dick) Veterinary College*—Thomas Kirk of Abbeymains, Haddington. *Glasgow Veterinary College*—James R. Lumsden of Arden, Dumbartonshire. *Scottish Milk Records Association*—Charles Douglas, D.Sc., C.B., of Auchloch, Lesmahagow; John M'Caig of Belmont, Stranraer; Sir Hugh Shaw Stewart, C.B., of Greenock and Blackhall, Bart.

*Letters.*

The following letters were submitted:—

*Mrs M'Donald, Corries, Lochawe.*—Thanks for Minute of sympathy on the death of her brother, the late Mr Robert Macdiarmid.

*D. Cameron, St Kilda.*—Thanks for Seed Oats and Potatoes sent out for use of Islanders.

*Joint Committee on Research in Animal Breeding.*—Thanks for grant of £500.

*Royal Scottish Arboricultural Society.*—Thanks for grant and space for exhibit at Show.

*Mrs Traill, Foula, Shetland.*—Thanks for grant and free stand for Home Industries exhibit.

*Highland Reel and Strathspey Society.*—Thanks for use of Society's hall.

*Grading of Milk.*

A letter was submitted, dated 25th October, from the Scottish Board of Health, stating that, in accordance with Section 3 of the Milk and Dairies (Amendment) Act, 1922, it was contemplated to make an Order empowering local authorities to issue licences for the sale of milk under certain designations which were specified. A note of the principal conditions which were contemplated in regard to such licences accompanied the letter, and the Society was invited to submit any observations it might have to make on the subject, not later than the 15th November.

The SECRETARY explained that this communication was received too late to be included in the agenda of business for that Meeting.

After some discussion, it was agreed that the Secretary be instructed to reply that it was not possible for the Directors to offer an opinion on the subject within the time specified.

*Vacancy on Board.*

It was agreed to remit to the three Ordinary Directors for the Aberdeen Division, to bring forward at next Meeting the name of a Director to fill the place of the late Mr James Durno.

*Dumfries Show, 1922.*

*Accounts.*—The Finance Committee reported that a Summary of the Accounts of the Dumfries Show had been submitted, showing a probable credit balance of about £1084, which was subject to certain payments due to the Society being received. In addition, the Society had this year retained timber to the value of £400, which would be used at the Inverness Show next year; and also the cost of the new Lady Members' pavilion, which amounted to £250, had been defrayed out of the Show funds. Taking these items into account, there was a probable profit on the Show of about £1784.

*List of Awards.*—The Lists of Awards for Stock and also for New Implements were laid on the table.

*Inverness Show, 1923.*

*Date of Show.*—On the motion of Colonel F. J. CARRUTHERS, of Dormont, seconded by Mr R. A. SMITH, Wester Lovat, the date of the Inverness Show was fixed for the 17th, 18th, 19th, and 20th July 1923.

*Forage.*—The Secretary was instructed to advertise for tenders for the supply of Forage, and the following Committee was appointed to consider the tenders and report to the Board: Mr James M'Laren (*Convener*); Colonel T. W. Cuthbert

Mr David Ferrie, Mr Alexander Forbes, Mr W. P. Gilmour, Mr A. B. Leitch, Mr John M'Caig, Mr Alexander Robertson, Mr P. O. Turnbull, and Mr George Will.

*Hotel Accommodation and Catering in Showyard.*—It was remitted to the Chairman of the Board, the Chairman of the Shows Committee, the Convener of the Local Committee, the Steward of Catering, and the Secretary to make the necessary arrangements.

*Forestry Exhibition.*—It was agreed that the usual space be granted to the Royal Scottish Arboricultural Society for an exhibition of timber, and also a grant of £20 to be awarded in prizes for timber.

*Show Contracts.*—It was remitted to the following Special Committee, with powers, to arrange the contract for timber, and other contracts in connection with the show-yard: Mr A. B. Leitch (*Convener*); Colonel F. J. Carruthers, Colonel T. W. Cuthbert, Mr David Ferrie, Mr W. P. Gilmour, Captain John MacGillivray, Mr James M'Laren, Sir Hugh Shaw Stewart, Mr George Will, and Professor Stanfield.

*Prize List and Regulations.*—The SECRETARY stated that the Shows Committee had met on 31st October, and had revised the Premium List and Regulations for the Inverness Show.

It was proposed that, as usual, their report be printed and issued for consideration in detail at next Meeting of the Board.

The Board approved of this course.

*Special Prizes.*—The following Special Prizes were accepted, and votes of thanks accorded to the Donors:—

- (1) *Aberdeen-Angus Cattle Society.*—Champion Gold Medal, value £10, for the best animal in the breeding classes—breeding animals shown as "Extra Stock" being eligible to compete.
- (2) *Red Poll Cattle Society.*—£27 towards the prizes in the Red Poll Classes.
- (3) *The Clydesdale Horse Society.*—Cawdor Challenge Cup for the best Clydesdale Mare or Filly, on the usual conditions.
- (4) *Major Alexander Browne of Callaly Castle.*—£10 in prizes of £5, £3, and £2, for Blackface Ram Lambs bred by exhibitor.
- (5) *Mr Dugald M'Kechnie, Glasgow.*—Special Prizes of £7, 7s. and £3, 3s. for best and second-best groups of Suffolk Sheep, comprising Ram, Ram Lamb, Shearling Ewe, and Ewe Lamb, all to be registered or eligible for registration in Flock Book, and bred by exhibitor, with the exception of the Ram.
- (6) *Suffolk Sheep Society.*—£25, in prizes as follows: Suffolk Ram Lamb, £10; three Suffolk Ewe Lambs, £8, £5, and £2, as at Dumfries.
- (7) *Large Black Pig Society.*—£24 towards the prizes in the Large Black Pig Classes, and Champion Cup, value £10, 10s., for best Large Black Boar or Sow.
- (8) *Society of Border Leicester Sheep Breeders.*—Two Gold Medals for best Male and best Female of the breed exhibited in the ordinary classes—animals entered as "Extra Stock" not eligible.

#### Science.

A Minute of Meeting of Science Committee, dated 1st November, was read and approved.

The Minute dealt with the following matters:—

*"Grass Sickness" Investigation.*—A Report by Dr TOCHER on the progress of the investigation during the past year had been submitted and fully considered, and its approval was recommended for transmission to the Board of Agriculture for Scotland. The question of continuing the investigation was deferred for consideration at a later meeting.

*Analyses for Members.*—It was recommended that a note be inserted in the Society's publications, under Chemical Department, to the effect that the reduced scale of fees for analyses shall not apply to members whose subscriptions are in arrears.

#### Tractor Demonstration.

Mr P. O. TURNBULL, Convener of the Implements Committee, reported that the Demonstration of Tractors and Tractor Implements had taken place at Fordel, Dalkeith, on 17th, 18th, 19th, and 20th October. There was a gratifying entry of both Tractors and Implements, and much excellent work was done. A Special Committee was engaged in the preparation of a full report on the demonstration, which it was hoped would be ready for publication in December.



*Education.*

Mr CHARLES DOUGLAS, D.Sc., C.B., Convener of the Education Committee, submitted Reports on the examinations for the National Diploma in Dairying, held at Reading and Kilmarnock in the end of September.

*National Horse Association.*

A communication was read from the Secretary of the newly-formed National Horse Association of Great Britain, inviting the presence of a delegate from the Society at a Meeting in London in December, to assist in drafting the conditions under which Societies shall be admitted to membership of the Association. It was agreed that no action be taken in the matter.

*Deficient Samples.*

Dr J. F. TOCHER, Consulting Chemist to the Society, submitted a Report on samples of manures and feeding-stuffs analysed by him for members during the past four months.

Mr CHARLES DOUGLAS said he noted that Dr Tocher had been making a considerable number of bacteriological examinations, which, to some extent, had to be paid for by the Society. He was thus doing work for members which the Society had not undertaken to do. Dr Tocher was not Bacteriologist to the Society, and members were not entitled to have bacteriological tests carried out for them. He moved that this matter be remitted to the Science Committee for consideration and report, and this was agreed to.

*Date of next Board Meeting.*

It was agreed to hold the next Meeting of Directors on Wednesday, 29th November, instead of the first Wednesday of December.

*Finance.*

A Minute of Meeting, dated 1st November, was submitted.

The Minute dealt with the following matters:—

*Joint Committee on Animal Nutrition.*—The application from the Joint Committee of the University of Aberdeen and North of Scotland College of Agriculture for a grant towards their Experimental Farm Buildings Fund had been under consideration, and it was recommended that the Joint Committee be invited to send a small deputation to appear before the Directors at next Meeting.

*"Grass Sickness" Investigation.*—On an application from Dr Tocher, it was agreed that the Society defray further expenses incurred in connection with the "Grass Sickness" Investigation during the six months ending 31st October.

On the motion of Sir DAVID WILSON, Convener of Finance Committee, the Minute was approved.

## MEETING OF DIRECTORS, 29TH NOVEMBER 1922.

Sir HUGH SHAW STEWART, C.B., of Greenock and Blackhall, Bart., in the Chair.

*Present.—Ordinary Directors*—Mr Thomas A. Buttar; Colonel F. J. Carruthers; Mr W. P. Gilmour; Mr James Grieve; Mr Thomas Kirk; Mr Andrew B. Leitch; Mr James R. Lumsden; Mr J. MacGillivray; Mr Duncan M'Laren; Mr James M'Laren; Mr J. T. M'Laren; Mr James M'Queen; Mr H. B. Marshall; Mr William Metklem; Mr Alexander Murdoch; Mr Alexander Robertson; Mr G. Bertram Shields; Mr John P. Sleigh; Mr R. A. Smith; Mr John Speir; Major Mark Sprot; Sir Hugh Shaw Stewart, Bart., C.B.; Mr Falconer L. Wallace; Mr George Will. *Extraordinary Directors*—Mr Alexander Cowan; Mr J. F. Cumming; Lieut-Col. T. W. Cuthbert, C.M.G., D.S.O.; Mr David Ferrie; Mr Alexander Forbes; Mr J. Ernest Kerr; Mr John M'Caig; Mr Robert Macmillan; Mr Ralph S. M'William; Mr Walter Mundell; Mr Alexander Munro; Mr James Scott; Mr Phipps O. Turnbull. *Hon. Secretary*—Charles Douglas, D.Sc., C.B. *Consulting Engineer*—Professor R. Stanfield. *Consulting Chemist*—Dr J. F. Tocher.

*Letters.*

Letters were read from the Marchioness of Breadalbane, and from Mrs Durno, Upper Mill, thanking the Directors for resolutions of sympathy passed at last Meeting.

*Ploughing Competitions.*

A letter was read from Mr William Watt, Eden, Wartle, Aberdeenshire, suggesting certain alterations in the conditions of award of the Society's Medals for Ploughing Competitions.

On the motion of Mr P. O. TURNBULL, the letter was remitted to the Implements Committee for consideration and report.

*West of Scotland Agricultural College.*

A letter was read from Principal W. G. R. Paterson, West of Scotland Agricultural College, making application for financial assistance to enable the College to purchase additional Dairy Stock for the College Farm at Kilmarnock.

The letter was remitted to the Finance Committee for consideration and report.

*Long-Service Certificates and Medals.*

A letter was read from the Secretary of the Arran Farmers' Society intimating that William M'Larty, ploughman, and Mary Robertson, dairymaid, who recently were awarded this Society's Long-Service Certificates and Medals for 34 years' and 35 years' service respectively, were about to be married, and proposed to continue on the same farm.

On the motion of Mr G. B. SHIELDS, it was decided that the Shows Committee be asked to consider what steps, if any, should be taken by the Society to mark this unique event.

*Vacancy on Board.*

On behalf of the Ordinary Directors in the Aberdeen Division, Mr John P. SLIGH moved, and Mr FALCONER L. WALLACK of Balcairn seconded, that Mr James Durno, Crichtie, Inverurie, be nominated as an Ordinary Director to fill the vacancy caused by the death of his father, the late Mr James Durno, Upper Mill. This was unanimously agreed to.

*Research in Animal Nutrition.*

As agreed upon at last Meeting, a Deputation was received from the University of Aberdeen and the North of Scotland College of Agriculture Joint Committee on Research in Animal Nutrition. The Deputation consisted of Principal Sir George Adam Smith, LL.D., Chairman of the Joint Committee, Sir James Campbell, LL.D., Mr William Murison, and Dr J. F. Tocher, Members of the Joint Committee, and Dr J. B. Orr, Director, Rowett Research Institute.

Sir George Adam Smith said the idea of founding an Institute to conduct Research in Animal Nutrition did not originate in Aberdeen. The suggestion came from the Development Commissioners, with the sanction and support of the Treasury. It was no provincial institute they were building, but an institute whose work was of a national character, and had a national significance. The subject of Animal Nutrition vitally concerned the food supply of the nation. It was on this national character of their work that they based their appeal for financial assistance.

Mr WILLIAM MURISON dealt with the financial position of the Scheme, and said that the Joint Committee were now endeavouring to raise a sum of £15,000 to defray the cost of the Experimental Farm Buildings and Stock Farm.

The CHAIRMAN thanked the Deputation for their attendance, and assured them that the matter would receive most careful consideration.

Sir James Campbell thanked the Directors, on behalf of the Deputation, for their courteous reception, and said he hoped they would consider the application favourably.

The Deputation then withdrew.

*Inverness Show, 1923.*

*Prize List.*—A Report of the Shows Committee of 31st October, which had been printed and circulated, was submitted.

The Report was considered in detail, the following points being specially dealt with:—

*Shorthorns.*—In view of the addition of two extra classes, Mr J. T. M'Laren

submitted the following revised classification for Shorthorn Bulls, which was agreed to:—

Bull calved before 1st December 1920	£15	£10	£5	£3
Bull calved on or after 1st December 1920, and before 1st April 1921	15	10	5	3
Bull calved on or after 1st April, and not later than 30th November 1921	12	8	4	2
Bull calved on or after 1st December 1921, and not later than 31st March 1922	12	8	4	2
Bull calved on or after 1st April 1922	10	6	4	2

*Aberdeen-Angus.*—In view of the addition of two extra classes, Mr J. Ernest Kerr of Harviestoun submitted the following revised classification for Aberdeen-Angus Cows and Heifers, which was agreed to:—

Cow in Milk, calved before 1st December 1919	£12	£8	£4	£2
Cow in Milk, calved on or after 1st December 1919	12	8	4	2
Heifer calved on or after 1st December 1920	10	5	3	2
Heifer calved on or after 1st December 1921, and before 1st March 1922	10	5	3	2
Heifer calved on or after 1st March 1922	10	6	4	2

*Red Polls.*—Letters from the Secretary of the Red Poll Cattle Society were submitted, making application for an extra Class at the Show, but it was decided that this request could not be entertained in the meantime.

*Blackface Sheep.*—Mr Alexander Cowan pointed out that some dubiety still existed regarding the conditions of the Class for Shearling Tups which have been entirely out-wintered. He suggested that it be left to the Secretary to redraft the wording so as to make it perfectly clear that animals competing must have been kept out of doors during both summer and winter. This was agreed to.

*Cumberland Pigs.*—Letters were submitted from the Secretary of the Cumberland Pig-Breeders' Association, and also from an Exhibitor, expressing regret at the proposal to omit these classes at the Show, and requesting the Directors to reconsider the matter.

After discussion, Colonel F. J. CARRUTHERS moved that classes be provided on the same lines as at Dumfries, and this was unanimously agreed to.

The Report of the Shows Committee was then approved.

*Ayrshire Classes.*—A Minute of Meeting of Shows Committee, dated 29th November, was submitted and approved.

The Minute recommended that the following Sub-Committee be appointed to consider and report as to the best means of dealing with the Authenticated Milk Yields and Milking Pedigrees to be lodged along with the entries in the Ayrshire Classes: Mr W. P. Gilmour, *Convener*; Sir Hugh Shaw Stewart, Bart.; Sir David Wilson, Bart.; Mr Charles Douglas, D.Sc., C.B.; Colonel F. J. Carruthers; Lieut.-Colonel W. T. R. Houldsworth; Mr John McCaig; Mr Alexander Murdoch; Mr John Speir; and Mr George Will.

In this connection a letter was read from Mr John Speir, dealing with the question of Milk Yields and Milking Pedigrees, and suggesting an alteration in the present classification. Mr Speir made a verbal statement in further explanation of his views, and it was then agreed, on the suggestion of the Chairman, that Mr Speir's proposals be also remitted to the Sub-Committee for their consideration and report.

*Convener of Local Committee.*—On the motion of Mr DAVID FERRIE, Sir Kenneth Mackenzie of Gairloch, Bart., was unanimously appointed Convener of the Local Committee of Management.

*Appointment of Judges.*—The Secretary reported that, at a Meeting of the Board in Committee on 28th November, Judges had been appointed for the various Classes of Stock. These were being communicated with, and after replies were received, the List of Judges would be published in the Press.

*Show Contracts.*—A Minute of Meeting of Special Committee on Show Contracts was submitted and approved.

The Minute recommended that the Society advertise for Tenders, for the hire only, of Timber for the Show, this Timber to be either (a) Home, (b) Foreign, or (c) Home and Foreign.

*Special Prizes.*—The following Special Prizes were accepted, and votes of thanks accorded to the donors:—

(1) *The President*—Champion Medals for each section of Live Stock.

(2) *Shorthorn Society*—Two Champion Prizes of £20 each, with Silver Medals to the breeders, for best Male and best Female Shorthorns,

- (3) *The Hunters Improvement, &c., Society*—Champion Gold Medal for the best Hunter Filly (not exceeding 3 years old) registered with a number in the Hunter Stud-Book.
- (4) *The National Pony Society*—Special Prize of £10 for the best Highland Stallion, Mare, Colt, or Filly, entered or accepted for entry in the Highland Section of the National Pony Stud-Book, "Extra Stock" being eligible to compete, and Special Prize of £10 for the best Western Island Stallion, Mare, Colt, or Filly, entered or accepted for entry in the Highland Section of the National Pony Stud-Book, "Extra Stock" being eligible to compete.
- (5) *The Shetland Pony Stud-Book Society*—Silver Medal for the best Shetland Pony, on the same conditions as formerly.
- (6) *National Pig-Breeders' Association*—(a) Gold Medal, value £5, for the best Large White Boar, and Gold Medal, value £5, for the best Large White Sow; (b) Gold Medal, value £5, for the best Middle White Boar, and Gold Medal, value £5, for the best Middle White Sow.
- (7) *Gloucestershire Old Spots Pig Society*—£15 towards the prizes in the Gloucestershire Old Spots Classes.

Offers of Special Prizes by the Shorthorn Society in conjunction with the Dairy Shorthorn Association, for Pedigree Shorthorn Dairy Cows and Heifers, and by the Dairy Shorthorn Association for Pedigree Dairy Shorthorn Bulls, were submitted. As the acceptance of these prizes would entail the provision of classes for Dairy Shorthorns, which classes the Directors were convinced would not attract a satisfactory entry at Inverness, it was decided that the offers of Special Prizes be not accepted.

#### *Wart Disease Regulations.*

The SECRETARY intimated that a letter had been received from the Board of Agriculture for Scotland inviting representatives of the Society to attend a Conference on 17th November regarding the proposed revision of the Wart Disease Regulations of the Ministry of Agriculture and Fisheries. After consultation with the Chairman of Directors, the following gentlemen had been requested and had attended the Conference as representing the Society—Mr David Ferrie, Mr P. O. Turnbull, and Mr John Speir.

Mr FERRIE stated that, at the Conference, there were representatives not only of the three agricultural bodies in Scotland, but of the Scottish Seed Potato Trade Association. The proposed Regulations of the Ministry of Agriculture and Fisheries were fully discussed, and the Board of Agriculture for Scotland had undertaken to do everything in its power to secure that the Regulations were modified before being issued.

#### *World's Dairy Congress, 1923.*

A letter was submitted from the Board of Agriculture for Scotland, inviting the Society to nominate a representative to serve on a General Committee to organise the representation of the milk industry in Scotland at a proposed World's Dairy Congress, probably at Philadelphia, in October 1923.

On the motion of Mr JOHN M'CAIG, Sir Hugh Shaw Stewart, Bart., Chairman of Directors, was unanimously nominated as the Society's representative on the Committee.

#### *"Grass Sickness" in Horses.*

A letter from the Angus Agricultural Association, dated 3rd November, was submitted, in which the hope was expressed that this Society will continue the investigation into the subject of "grass sickness" in horses, with a view to more satisfactory results being obtained.

#### *Show of 1925.*

A letter was read from the Town-Clerk of Hamilton, dated 18th November, containing an invitation to the Society to visit and inspect the ground in Hamilton Palace Policies, with a view to its suitability as a site for the Show in 1925. This letter was remitted to the Sub-Committee charged with the duty of looking out for a suitable site.

#### *Grants to Local Societies.*

A report by the Shows Committee, dated 29th November, relating to grants to local societies, was submitted and approved.

The Committee recommended fourteen districts for grants of £12 each; fifteen districts for three silver medals each; eleven districts for grants of £15 each for

stallions; special grants of £15 to the Northern Arts and Crafts Society; £40 for Federations of Women's Rural Institutes; £20 to Kilmarnock Cheese Show; £3 each to Orkney, Sanday, East Mainland, West Mainland, Walls and Hoy, and Kilmuir; a gold medal and a silver medal to the British Dairymaids' Association; twelve districts for two medals each; the usual medals at ploughing and hoeing competitions; and six districts for two medals each for cottages and gardens; long-service medals and certificates, say £107, 10s.—making the total sum offered in 1923 £700, 19s. 6d., against £728, 3s. 10d. awarded in 1922.

#### *Finance.*

A Minute of Meeting of Finance Committee, dated 29th November, was submitted.

The Minute recommended that, if the Directors should decide, after hearing the deputation, to give a grant to the Joint Committee on Research in Animal Nutrition, the amount of such grant should be £500, this being the same amount as was given to the Joint Committee on Research in Animal Breeding.

Considerable discussion followed as to the amount of the proposed grant; but it was eventually decided, on the motion of Mr R. A. SMITH, seconded by Mr DAVID FERRIE, that the amount suggested be approved.

The Minute of Meeting of Finance Committee was thereafter adopted.

#### MEETING OF DIRECTORS, 10TH JANUARY 1923.

Sir HUGH SHAW STEWART, C.B., of Greenock and Blackhall, Bart., in the Chair.

*Present.*—*Vice-President*—Sir Kenneth Mackenzie of Gairloch, Bart. *Ordinary Directors*—Mr Thomas A. Buttar; Colonel F. J. Carruthers; Mr W. P. Gilmour; Mr James Grieve; Lieut.-Col. W. T. R. Houldsworth; Sir John A. Hope, Bart.; Mr Thomas Kirk; Mr Andrew B. Leitch; Mr William Low; Mr James R. Lumsden; Mr John MacGillivray; Mr Duncan M'Laren; Mr James M'Laren; Mr J. T. M'Laren; Mr William Meiklem; Mr Alexander Murdoch; Mr James Rodger; Mr G. Bertram Shields; Mr John P. Sleigh; Mr John Speir; Major Mark Sprot; Sir Hugh Shaw Stewart, Bart., C.B.; Mr John Stewart. *Extraordinary Directors*—Mr Alexander Cowan; Mr Alexander Forbes; Mr J. Ernest Kerr; Mr John M'Caig; Mr William Poole, J.P.; Mr John Robson, jun.; Mr James Scott; Mr Phipps O. Turnbull. *Auditor*—Mr William Home Cook. *Consulting Engineer*—Professor R. Stanfield. *Consulting Chemist*—Dr J. F. Tocher.

#### *Centenary of the Royal (Dick) Veterinary College.*

A letter was read from Principal O. Charnock Bradley, M.D., M.R.C.V.S., of the Royal (Dick) Veterinary College, directing attention to the fact that November next was the Centenary Anniversary of the foundation of what originally, and for many years, was known as the Highland Society's Veterinary School at Edinburgh. He wrote as Chairman of the Centenary Executive Committee, which felt certain that the Directors would wish to co-operate in the celebrations. The functions customary on such occasions would take place as near the actual date of the hundredth anniversary, 24th November 1923, as possible; and as a permanent memorial of the event it was proposed to institute a Centenary Post-Graduate Fellowship and Research Fund, for which they wished to raise a sum of not less than £10,000 by means of a Bazaar to be held on 29th and 30th November, and 1st December.

Mr THOMAS KIRK of Abbey Mains said it would be fitting that the Society should co-operate in the celebration of this Centenary, as suggested by Principal Bradley. He moved that the matter be remitted to a small Committee to confer with the Centenary Committee, or representatives thereof, with a view to co-operating in the proposed celebrations.

Mr WILLIAM POOLE, J.P., seconded, and the Motion was agreed to.

The Committee was thereafter appointed as follows: Sir Hugh Shaw Stewart, Bart.; Sir David Wilson, Bart.; Mr Charles Douglas, D.Sc., C.B.; Mr Thomas Kirk; Mr William Poole; and Mr G. Bertram Shields.

#### *Charges for Implement Stands at Show.*

A letter was read from the Secretary of the Scottish Agricultural Implement Dealers' Association, requesting a reduction in the rates for space payable by

Exhibitors at the Show. It was stated that, in view of the depressed condition of the Agricultural Implement Trade, the Association were of opinion that pre-war rates should be reverted to.

After some discussion, it was moved by Mr WILLIAM POOLE, and seconded by Mr G. BERTRAM SHIELDS, that the matter be remitted to the Finance Committee for consideration and report, and this was agreed to.

#### *Finance.*

A Minute of Meeting of Committee, dated 10th January, was read and approved.

The Minute stated (1) that an Abstract of the Accounts for the year 1921-1922, as prepared by the Society's Auditor, had been submitted and approved, and signed by two members of the Finance Committee and by the Auditor; and (2) that the usual estimate of probable Income and Expenditure for the year 1922-1923, as prepared by the Secretary, had been submitted.

#### *Research in Animal Nutrition.*

On the Motion of the CHAIRMAN, it was unanimously agreed to confirm the recommendation adopted at last Meeting that a grant of £500 be given to the University of Aberdeen and North of Scotland College of Agriculture Joint Committee on Research in Animal Nutrition.

#### *Inverness Show, 1923.*

*Stewards.*—The Stewards of the various departments were appointed as follows : *Cattle*—Mr J. Ernest Kerr and Mr Moffat S. Thomson ; *Horses*—Mr John M'Craig and Mr John P. Sleigh ; *Sheep, Goats, Pigs, and Wool*—Captain R. Macmillan and Mr Duncan M'Laren ; *Grand Stands*—Captain Thomas Kirk and Mr James M'Queen ; *Forage*—Mr James M'Laren and Mr John Stewart ; *Gates*—Mr Alexander Forbes and Mr Alexander Murdoch ; *Implements*—Mr P. O. Turnbull and Mr John Speir ; *Poultry*—Mr James R. Lumsden ; *Catering, Bee Appliances, Honey, &c.*—Mr David Ferrie.

*Veterinary Surgeon.*—Mr William Logan, M.R.C.V.S., Inverness, was unanimously appointed Veterinary Inspector for the Inverness Show, on the usual conditions.

*Timber for Showyard.*—A Minute of Meeting of Show Contracts Committee, dated 19th December 1922, was read and approved.

The Minute stated that an offer by Messrs James Walker & Company, Inverness, to hire the whole of the timber required for the Showyard for a sum of £2200 had been accepted.

*Dairy Shorthorns, Free Stands, &c.*—A Minute of Meeting of Shows Committee, dated 10th January, was submitted and approved.

The Minute recommended—*Dairy Shorthorns*—That classes for Cows, Heifers, and Bulls of the Dairy Shorthorn Breed be provided, and that the offer by the Breed Societies to provide part of the prize-money be accepted. It was remitted to the following Sub-Committee to adjust the classifications and appoint a Judge—Mr A. B. Leitch, *Convener*; Mr John MacGillivray; Mr James Scott; and Mr Thomas Kirk.

*Free Stands.*—That free stands and free sites at the Show be granted according to a list submitted.

*Long Service Medal Holders.*—That the occasion of the marriage of two holders of the Society's Long Service Certificate and Medal be marked by the presentation of a gift from the Society of a value not exceeding £10.

*Special Prizes.*—The following Special Prizes were accepted, and votes of thanks accorded to the donors:

- (1) British Friesian Cattle Society—£53 towards the prizes in the British Friesian Classes, together with two Champion Prizes of £5 each for the best Female and the best Male exhibited.
- (2) Colonel Charles Brook of Kinmount, Annan—Challenge Cup, value about £50, for best Female animal in Red Poll Classes.
- (3) Board of Agriculture for Scotland—£40 towards the prizes in the Highland Pony Classes, and £12 towards prizes for Goats.
- (4) Shetland Pony Foals—£10 in prizes of £5, £3, and £2 by "Four Lovers of the Breed," per Mr W. Mungall of Transy, on same conditions as formerly.
- (5) Cumberland Pig-Breeders' Association—£20 towards the prizes in the Cumberland Pig Classes.

*Implements.*

A Minute of Meeting of Implement Committee, dated 10th January, was submitted and approved.

The Minute stated—

*Ploughing Competitions.*—That it appeared to be a matter for Local Societies or Local Ploughing Committees to decide what class of ploughs should compete for this Society's medals, and, if so agreed, to offer these for competition for the type of plough most generally used in the district.

*Small Threshing-Machines.*—That no action should be taken with regard to a suggestion that the Society hold a trial of small threshing-machines.

*Unexhausted Values of Manures and Feeding-Stuffs.*

A letter was submitted, dated 16th December, from the Board of Agriculture for Scotland, with regard to a proposal to issue a standard table of unexhausted values for manures and feeding-stuffs, which would be applicable both to Scotland and to England. It was agreed that the matter be remitted to the Science Committee for consideration and report.

*Proposed New Potato Order.*

The SECRETARY reported that he had received a letter, dated 21st December, from the Secretary of the Scottish Chamber of Agriculture, inviting the Society to appoint representatives to a Joint Deputation which, at the request of the Chamber, was to be received by the Minister of Agriculture and Fisheries on 11th January, with reference to the proposed issue by the Ministry of a new Potato Order. After consultation with the Chairman of Directors, he had approached the members of the small Committee which had previously had this matter under consideration, and had ascertained that Mr P. O. Turnbull and Mr John Speir would be willing to act as the Society's representatives, if the Directors approved.

Mr TURNBULL reminded the Board that in April 1922, a small Committee, appointed by the Board, had waited upon the Board of Agriculture for Scotland with regard to this matter, and as a result of that interview they obtained an assurance that the proposed Order would be postponed, and, in any case, would not apply to the 1922 crop. Further, on 17th November, at the invitation of the Board of Agriculture, they took part in a Conference, at which were representatives not only of the three agricultural bodies in Scotland, but of the Scottish Seed Potato Trade Association, and it was then agreed that they should support the Board of Agriculture in the action which they proposed to take in the matter. This new Deputation had come as a surprise to him, but he was prepared to attend if the Directors so desired.

Mr SPEIR concurred in the views expressed by Mr Turnbull, and also expressed his willingness to attend.

On the motion of the CHAIRMAN, it was unanimously agreed that Mr Turnbull and Mr Speir be appointed to represent the Society on the proposed Deputation.

*International Congress on Cattle-Breeding.*

The SECRETARY read communications which he had received, one of which was from the Board of Agriculture for Scotland, with regard to an International Congress on Cattle-Breeding, to be held at The Hague from 29th August till 4th September 1923.

On the motion of the CHAIRMAN, it was agreed that Mr J. Ernest Kerr of Harviestoun Castle, Dollar, be asked to represent the Society at the proposed Congress.

*Show of 1925.*

Mr JOHN SPEIR, Newton, moved—"That provided a suitable site is available, and satisfactory financial and other arrangements can be made, the Society's Show of 1925 be held in the Glasgow Show division."

The motion was seconded by Mr ALEXANDER MURDOCH, East Hullside, and unanimously agreed to.

*New Members.*

The SECRETARY intimated that there were 276 candidates for election as members of the Society at the Anniversary General Meeting to be held that afternoon.

*Tractor Demonstration.*

In reply to an inquiry, Mr P. O. TURNBULL stated that the Reporting Committee had had its Report ready for about a month. The delay in publication was due to the exhibitors not sending in the descriptions and illustrations of their tractors and implements. The Committee regretted the delay, but they wished the Report to be as complete as possible. The blame did not rest with the Society.

The SECRETARY said he thought the Report would be out before the end of January.

*Honour to the Chairman.*

Sir KENNETH MACKENZIE, on behalf of the Directors, conveyed to the Chairman, Sir Hugh Shaw Stewart, an expression of their satisfaction at the honour which had been conferred on him by the King, in his appointment as Lord-Lieutenant of the County of Renfrew.

*Finance.*

The remaining part of the Minute of Meeting of Committee, dated 10th January, was submitted and approved.

The Minute dealt with the following matters:—

*Special Show Reserve Fund.*—Having obtained an opinion from the Society's Law Agents to the effect that it would be inexpedient to proceed with the formation of a Special Show Reserve Fund, the Committee recommended that no action be taken in this direction.

*National Horse Association.*—A further communication from the Shire Horse Society, inviting this Society to become affiliated to the National Horse Association, had been carefully considered. The Committee were of opinion that this was a matter more for Horse and Pony Breed Societies than for a general agricultural society, and they accordingly recommended that no action be taken.

*"Grass Sickness" Investigation.*

Dr TOCHER said that he and his collaborators had read papers on the above subject before the Scottish Branch of the National Veterinary Association at Perth on 15th December. Full reports would appear in forthcoming issues of the 'Veterinary Record,' and he suggested that he be authorised to purchase 100 copies of the paper and 100 reprints, so that each Director might receive a copy. This was agreed to.

MEETING OF DIRECTORS, 7TH FEBRUARY 1923.

Sir HUGH SHAW STEWART, C.B., of Greenock and Blackhall, Bart., in the Chair.

*Present.*—*Vice-President*—Sir Kenneth Mackenzie of Gairloch, Bart. *Ordinary Directors*—Mr Thomas A. Buttar; Colonel F. J. Carruthers; Mr James Durno; Mr W. P. Gilmour; Colonel Sir John A. Hope, Bart.; Mr Thomas Kirk; Mr Andrew B. Leitch; Mr James R. Lumsden; Mr James M'Laren; Mr J. T. M'Laren; Mr James M'Queen; Mr William Melklem; Mr Alexander Murdoch; Mr Alexander Robertson; Mr James Rodger; Mr G. Bertram Shields; Mr John Speir; Major Mark Sprot; Sir Hugh Shaw Stewart, Bart., C.B.; Mr John Stewart; Mr Falconer L. Wallace. *Extraordinary Directors*—Mr J. J. Cumming; Colonel T. W. Cuthbert, C.M.G., D.S.O.; Mr John M'Caig; Mr Alexander Munro; Colonel John L. Reid; Mr Moffat S. Thomson; Mr Phipps O. Turnbull. *Treasurer*—Sir David Wilson, Bart., D.Sc. *Consulting Engineer*—Professor R. Stanfield. *Consulting Chemist*—Dr J. F. Tocher.

*The late David Ferrie of Parbroath.*

Before proceeding with the business of the Meeting the Chairman referred, in sympathetic terms, to the death of Mr David Ferrie of Parbroath. Mr Ferrie, he said, was first elected a Director in 1906. Always a punctual and industrious member of the Board, he was elected in 1920 to be Chairman, and re-elected for a second term in 1921. He was a farmer of distinction in many branches of the industry, and they all appreciated his unfailing good humour, and were pleased to



serve under his leadership. Mr Ferrie never grudged time or trouble in undertaking duties on behalf of the Society, and all who worked with him would ever cherish the memory of his useful work, his agreeable personality, and his honourable career.

The CHAIRMAN moved that a Resolution be engrossed in the Minutes, expressing the deep regret with which the Directors received intimation of his death, and their sense of the valuable services which he had rendered to the Society. The Resolution was unanimously adopted, the members present upstanding, and the Secretary was instructed to send an extract thereof to the widow of the deceased.

#### *Science.*

A Minute of Meeting of Committee, dated 7th February, was submitted and approved.

The Minute dealt with the following matters :—

*Schedule of Unit Values.*—The Schedule of Unit Prices of Manures and Feeding-Staffs for the current year had been revised, and it was recommended that it be printed and issued as usual.

*Values of Unexhausted Manures and Feeding-Staffs.*—It was recommended that the Table of Values of Unexhausted Manures and Feeding-Staffs be reissued, and that it be remitted to Dr Tocher, Consulting Chemist, to revise it in terms of the new Unit Values.

*Proposed Standard Table of Unexhausted Values of Manures and Feeding-Staffs.*—The letter from the Board of Agriculture for Scotland, dated 16th December, remitted from last Meeting of Directors, had been considered, and it was recommended that a reply be sent to the effect that this Society approves generally of the proposals contained in the letter, and is prepared to co-operate in the consideration and preparation of such a Standard Table.

#### *Inverness Show, 1923.*

A Minute of Meeting of Shows Committee, dated 7th February, was submitted and approved.

The Minute dealt with the following matters :—

*Ayrshire Classes.*—The following recommendations of the Ayrshire Classes Sub-Committee were recommended for approval by the Board :—

1. To be eligible for competition in the Ayrshire Classes, cows must have an authenticated milk yield, and younger females and bulls an authenticated milking pedigree of a definite minimum amount.

2. The minimum amount referred to shall be as follows, calculated on the basis of a period between calvings of 52 weeks, and 3·8 per cent butter fat :—

(a) Cows which have completed two or more lactations—700 gallons.

(b) Cows which have completed only one lactation—600 gallons.

(c) Younger females and bulls: an authenticated milking pedigree for dam and dam of sire on a similar basis.

3. In the case of cows with two or more lactations, the record lodged may be that for any year the exhibitor may select.

4. The evidence of milk-yield and milking pedigree shall be in the form of a certificate signed by the Secretary of the Milk Records Association. The certificate, besides giving the actual yields above referred to, shall give these reduced to a uniform basis calculated at 1 per cent butter fat. This latter figure shall be communicated to the Judges before adjudicating.

5. The authenticated milk yields and authenticated milking pedigrees shall appear in the Catalogue.

*Rural Industries Section.*—Certain recommendations, by a Sub-Committee, regarding the classification for the current year, were recommended for adoption.

*Horse-Shoeing Competition.*—The Blacksmiths' and Farriers' Association, being prepared to provide anvils and forges, &c., and to arrange for horses to be shod, it was recommended that a Horse-Shoeing Competition be held on the same lines as at Dumfries last year.

*Dairy Shorthorns.*—It was recommended that the Society contribute £25, in addition to the Special Prizes already offered for Dairy Shorthorns, so as to provide prizes in each of the three classes of £10, £5, £3, and £2. It was further recommended that Mr W. Nixon, Offchurch, Leamington Spa, Warwickshire, be appointed Judge of Dairy Shorthorns.

*Special Prizes.*—The following Special Prizes were accepted, and votes of thanks accorded to the donors :—

(1) *Charles D. Stewart, Ballindarroch.*—Special Prize of £10, 10s., or piece of plate, for best Yearling Shorthorn Heifer, calved on or after 1st April 1922.

- (2) Ayrshire Cattle Herd-Book Society.—£20 to provide two prizes of £10 each for the best male and female respectively of the Ayrshire Breed, entered with a number in the Herd-Book not later than 1st June 1923.

*Scottish Oxford Down Sheep-Breeders' Challenge Cup.*—A letter was submitted from Mr Robert Graham, Kaimflat, intimating on behalf of a Committee, that the Scottish Breeders of Oxford Down Sheep had arranged to provide a new Challenge Cup to take the place of the Robertson Cup, which was won outright last year. It was agreed that the Cup be accepted, and that the cordial thanks of the Society be communicated to the donors.

The letter further suggested that this Society award a Medal to the winner of the Cup each year, but it was agreed to point out that it was unusual for this Society to give such a Medal, and to suggest that the donors, or the Oxford Down Sheep-Breeders' Association, should provide the Medal.

#### *Proposed New Potato Order.*

Mr PHIPPS O. TURNBULL, Smeaton, reported on the deputation to the Minister of Agriculture with regard to the proposed New Potato Order. He said the deputation, which included representatives of the Farmers' Union and the Scottish Chamber of Agriculture, put the case very strongly against the proposed Order. The result was that the Ministry of Agriculture had arranged to confer with the Board of Agriculture on the subject, and some system of inspection of the growing crop would probably be instituted. The outcome would be a big modification of the proposed Order. He had no doubt it would be found satisfactory to potato growers in Scotland.

The CHAIRMAN, on behalf of the Directors, thanked Mr Turnbull and Mr Speir for the trouble they had taken in the matter.

#### *Tractor Demonstration.*

The Report by the Committee on the Tractor Demonstration, held in October last, was laid on the table. The Chairman, on behalf of the Directors, thanked the members of the Committee for the time and trouble they had devoted to the preparation of the Report. He also thanked Professor Stanfield, the Consulting Engineer, for the care and attention he had expended on the very full and clear descriptions of the various machines exhibited.

#### *International Congress on Cattle-Breeding.*

The SECRETARY reported that Mr J. Ernest Kerr of Harviestoun was unable to act as the Society's representative at the proposed Congress at the Hague in September next.

It was unanimously agreed to nominate Mr W. P. Gilmour, Balmangan, as the Society's representative, and Mr Gilmour agreed to undertake the duty.

#### *Finance.*

A Minute of Meeting of Finance Committee, dated 7th February, was submitted and approved.

The Minute stated that the Committee had considered the letter from the Scottish Agricultural Implement Dealers' Association, and it was recommended that certain reductions in the charges for space and shedding at the Show be agreed to. Details of these reductions will appear in the Premium List.

#### *Presentation to Holders of Long-Service Certificates and Medals.*

Mr G. B. SHIELDS reported that, as instructed at last meeting, the Sub-Committee had purchased two arm-chairs, which were being forwarded as a present from the Society on the occasion of their wedding, to Mr and Mrs William M'Larty, both of whom were holders of the Society's Long Service Certificates and Medals. The cost of the chairs was £10, 10s., instead of £10, as formerly authorised, and he asked that the Directors sanction the additional expenditure. This was agreed to.

## MEETING OF DIRECTORS, 7TH MARCH 1923.

Sir HUGH SHAW STEWART, C.B., of Greenock and Blackhall, Bart., in the Chair.

*Present.—Ordinary Directors*—Mr Thomas A. Buttar; Colonel F. J. Carruthers; Mr James Durno; Mr James Grieve; Colonel Sir John A. Hope, Bart.; Lieut.-Col. W. T. R. Houldsworth; Mr Thomas Kirk; Mr Andrew B. Leitch; Mr James R. Lumsden; Mr Duncan M'Laren; Mr James M'Laren; Mr James M'Queen; Mr Alexander Robertson; Mr James Rodger; Mr G. Bertram Shields; Major Mark Sprot; Sir Hugh Shaw Stewart, Bart., C.B.; Mr John Stewart; Mr Falconer L. Wallace. *Extraordinary Directors*—Mr Alexander Cowan; Mr Alexander Forbes; Mr J. Ernest Kerr; Mr Alexander Munro; Mr Robert Macmillan; Mr William Poole; Mr Phipps O. Turnbull. *Treasurer*—Sir David Wilson, Bart., D.Sc. *Hon. Secretary*—Mr Charles Douglas, D.Sc., C.B. *Consulting Engineer*—Professor R. Stanfield. *Consulting Chemist*—Dr J. F. Tocher.

*The late William Duthie, Collynie.*

The CHAIRMAN made sympathetic reference to the death of Mr William Duthie, Collynie, who, he said, was a celebrated agriculturist, notably as a breeder of Shorthorns. He moved that a Resolution be engrossed in the Minutes, expressing the deep regret with which the Directors received intimation of his death, and their sense of the valuable services which he rendered to the Society as a Director during a period of eighteen years, as a Vice-President in 1914 and 1919, and as a Judge at many of the Society's Shows. The Resolution was unanimously adopted, the members present upstanding, and the Secretary was instructed to send an extract thereof to the relatives of the deceased.

*Letters.*

The following letters were submitted:—

*Mrs Ferrie, Parbroath.*—Thanks for Minute of sympathy on the death of her husband, the late Mr David Ferrie.

*North of Scotland College of Agriculture.*—Thanks for grant of free stand at Inverness Show.

*Mr and Mrs William M'Larty, Kildonan.*—Thanks for wedding gift of two easy-chairs. (Long Service Medal Holders.)

*Inverness Show, 1923.*

*Proof of Prize List.*—A proof print of the Prize List and Regulations was submitted and considered in detail, the following points being specially referred to.

*Classes for Goats.*—The SECRETARY reported that, as a result of correspondence which he had had with the Secretary of the British Goat Society, the classification had been adjusted so as to provide eight classes, all of these being Open Classes. He submitted a letter from the Secretary of the Scottish Goat-Keepers' Federation suggesting that a class be added for cottagers' goats, but this suggestion was not adopted. The classes for goats, as printed in the Prize List, were approved.

*Rural Industries Section.*—A letter was submitted from the Chairman of the North-West Area of Scottish Women's Rural Institutes, suggesting the addition of four classes confined to Institutes and Members of Institutes in the North-East and North-West Areas of Scottish Women's Rural Institutes, and two classes open to Institutes and Members of Institutes in the whole of Scotland. The prize-money for these extra classes amounted to £36, of which £24 would be contributed by the Central Council of Scottish Women's Rural Institutes, and £12 by the North-East and North-West Areas. The inclusion of these classes was approved.

*Dairy Shorthorns.*—It was agreed that a President's Medal be offered for Dairy Shorthorns.

After some further slight emendations had been made, the Prize List and Regulations were finally approved for publication.

*Steward of Catering.*—Major Mark Sprot of Riddell was unanimously appointed Steward of Catering in succession to the late Mr Ferrie.

*Special Prizes.*—The following Special Prizes were accepted, and votes of thanks accorded to the donors:—

- (1) *Scottish Shorthorn Breeders*—£10, to be awarded as second, third, and fourth prizes of £5, £3, and £2 respectively, for Shorthorn Heifers calved on or after 1st April 1922.

(2) *Neilson & Cleland, Ltd., Coatbridge*—Two Special Prizes, value £5 each, in the form of pieces of plate, to be awarded to the winners of the first prizes in the Horse-Shoeing Competition.

(3) *Mustad Nail Company*—Two Gold Medals to be awarded for best-made Shoes in Horse-Shoeing Competition.

The acceptance of the Special Prizes for Shorthorn Heifers above mentioned entailed the division of the class for Yearling Heifers into two classes, as follows :  
(a) Heifer calved on or after 1st December 1921, and not later than 31st March 1922 ;  
(b) Heifer calved on or after 1st April 1922.

*Scottish Oxford-Down Sheep-Breeders' Challenge Cup*.—A further letter was submitted from Mr Robert Graham, Kaimflat, requesting the Society to provide a Silver Medal each year for the winner of the above Cup. The Directors, however, did not see their way to comply with the request.

#### *Dumfries Show, 1922.*

The Secretary reported that he had received a cheque for £13, 10s. from the Dumfries Agricultural Society, being a contribution by Ayrshire Breeders in the Dumfries District towards the Special Class for Ayrshire Heifers in Calf at the Dumfries Show.

#### *"Grass Sickness" Investigation.*

A Minute of Meeting of Science Committee, dated 7th March, was read and approved.

The Minute recommended that the Investigation into "Grass Sickness" be continued for another year, and that a maximum sum of £400 be voted for the purpose of paying the cost of the toxin anti-toxin mixture to be used in inoculation experiments, under the condition that controls be retained on each farm where inoculations take place under the Society's scheme.

#### *Forestry Examinations.*

A Minute of Meeting of Education Committee, dated 7th March, was submitted and approved.

The Minute recommended that the following Sub-Committee be appointed to revise the Syllabus of Examination for the Society's First and Second Class Certificates in Forestry—Sir Hugh Shaw Stewart, Bart., *Convener*, the Earl of Stair, Dr A. W. Borthwick, Mr J. H. Milne Home, Mr John Sutherland, Assistant Forestry Commissioner, with power to add to their number.

#### *World's Dairy Congress, 1923.*

A communication was submitted from the Board of Agriculture for Scotland with regard to the World's Dairy Congress, to be held in the United States in October 1923, and inquiring whether the Society proposed to send a representative to the Congress, or to co-operate with others in appointing a Joint Representative. The Directors did not see their way to send a representative.

As it was understood that one representative from Scotland will be sent at Government expense, the Secretary was instructed, in replying to the communication, to express the hope that an expert on Dairying will be selected, rather than an official of the Board of Agriculture.

## PROCEEDINGS AT GENERAL MEETINGS.

GENERAL MEETING, 7TH JUNE 1922.

THE EARL OF STAIR, D.S.O., President, in the Chair.

### *New Members.*

Three hundred and thirty-four candidates were balloted for and admitted Members of the Society.

### *Election of Office-Bearers.*

The following noblemen and gentlemen were elected office-bearers of the Society for the year 1922-23 :—

*President*—The Mackintosh of Mackintosh, Moy Hall, Inverness.

*Vice-Presidents*—The Duke of Sutherland, Dunrobin Castle, Golspie; Lord Lovat, C.B., D.S.O., K.C.V.O., A.D.C., Beaufort Castle, Beaulieu; Sir Hector Munro of Foulis, Bart., Foulis Castle, Evanton; Sir Kenneth Mackenzie of Gairloch, Bart., Conan House, Conan Bridge.

*Ordinary Directors*.—1919: Mr R. A. Smith, Wester Lovat, Beaulieu; Mr William Meiklem, Begg, Kirkcaldy; Sir Hugh Shaw Stewart, C.B., of Greenock and Blackhall, Bart., Ardgowan, Greenock; Mr H. B. Marshall of Rachan, Broughton; Mr Thomas Kirk of Abbey Mains, Haddington; Mr James Durno, Upper Mill, Tarves; Mr James M'Laren, Cornton, Stirling; Mr W. P. Gilmour, Balmangan, Kirkcudbright.

1920.—Mr Thomas A. Buttar, Corston, Coupar-Angus; Mr John Speir, Newton Farm, Newton, Glasgow; Mr James Grieve, Rumbletonlaw, Greenlaw; Mr J. T. M'Laren, The Leuchold, Dalmeny House, Edinburgh; Mr William Low of Balma-kewan, Marykirk, Montrose; Mr James R. Lumsden of Arden, Dumbartonshire; Mr James M'Queen of Crofts, Dalbeattie; General Sir Walter Charteris Ross of Cromarty, Cromarty.

1921.—Lieut.-Col. W. T. R. Houldsworth of Kirkbride, Maybole; Major Mark Sprot of Riddell, Lilliesleaf; Colonel Sir John A. Hope of Craighall, Bart., M.P., Pinkie House, Musselburgh; Mr John P. Sleigh, St John's Wells, Fyvie; Mr Alexander Robertson, Estate Office, Polmaise, Stirling; Mr George Will, Crichton Royal Institution, Dumfries; Mr Andrew B. Leitch, Inchstelly, Alves, Forres; The Duke of Atholl, K.T., C.B., M.V.O., D.S.O., Blair Castle, Blair-Atholl.

1922.—Mr Duncan M'Laren, Fairmington, Roxburgh; Mr G. Bertram Shields, Delphinstone, Tranent; Mr Falconer L. Wallace of Balcarra, Old Meldrum; Mr James Rodger, Keir Mains, Dunblane; Colonel F. J. Carruthers of Dormont, Lockerbie; Mr John M'Gillivray of Calrossie, Nigg, Ross-shire; Mr John Stewart of Struthers, Cupar-Fife; Mr Alexander Murdoch, East Hallside, Newton, Glasgow.

*Extraordinary Directors*.—Mr Moffat S. Thomson of Lambden, Spotsmans, Kelso; Mr Alexander Cowan, Valleyfield, Penicuik; Mr Alexander Forbes, Rettle, Banff; Mr William Poole, J.P., Englewood, Blackhall; Colonel J. L. Reid of Cromley Bank, Ellon; Mr John M'Caig of Belmont, Stranraer; Mr David Ferrie of Parbroath, Cupar-Fife; Mr Phipps O. Turnbull, Smeaton, Dalkeith; Mr J. Ernest Kerr of Harviestoun Castle, Dollar; Captain Robert Macmillan of Holm of Dalquhairn, Woodlea, Moniaive; The Provost of Inverness; Mr John Robson, jun., of Lynegar,

Watten, Caithness; Mr Walter Mundell, Dalchork, Delny House, Delny; Mr James Scott, Fearn, Ross-shire; Mr Ralph S. M'William, Garguston, Muir of Ord; Mr Alexander Munro of Leanach, Culloden Moor, Inverness; Colonel T. W. Cuthbert, C.M.G., D.S.O., Achindunie, Alness; Mr Charles F. Tulloch, Braevail, Lethen, Nairn; Mr J. F. Cumming, The Dowans, Aberlour; Mr William Fenwick, Darnaway Estates Office, Earlsmill, Forres.

*Treasurer.*—Sir David Wilson of Carbeth, Bart., D.Sc.

*Hon. Secretary.*—Mr Charles Douglas, D.Sc., C.B., of Auchlochan, Lesmahagow.

*Special Grant.*

Sir DAVID WILSON of Carbeth, Bart., Convener of Finance Committee, moved the approval of a grant of £500 to the Edinburgh University and College of Agriculture Joint-Committee on Research in Animal Breeding. The Directors had been informed by a deputation which waited on them that Government would provide an amount equivalent to twice the sum which the Joint-Committee may raise by means of voluntary subscriptions. On this understanding they had decided to recommend a grant of the amount stated.

Mr JOHN ELLIOT of Meigle seconded, and the motion was agreed to.

*Dumfries Show, 1922.*

Colonel F. J. CARRUTHERS, Convener of the Shows Committee, reported on the progress of the arrangements for the Show of this year, to be held at Dumfries on Tuesday, 18th July, and three following days. As on several former occasions, the Show would be held at Rotchell Park, an excellent and convenient site. Some additional space had been secured, so that the lay-out of the Showyard had been improved and simplified. The Town Council of Dumfries had voted a grant of £50 from the Common Good Fund, and a supply of water had been granted free of charge.

The total value of the premiums and cups offered reached a sum of £5488. Entries of Implements and Machinery, which had now closed, were extremely gratifying in point of numbers, being practically equal to last year. Entries of Stock, which closed that day, had every appearance of equalling, if not surpassing, in numbers those of last year.

New features of the Show were Classes for Red Poll Cattle, Belted Galloways, and Blue-Gray Steers. There was also a new section for Women's Rural Industries, for which a large entry had been received.

In view of the increasing number of lady members of the Society, the Directors had decided to erect a Lady Members' Room with a permanent frontage. This building would form a memento of the hundredth anniversary of the first Show.

Provided no further outbreak of Foot-and-Mouth Disease occurred, and the meeting was favoured with good weather, there was every reason to hope that the Show at Dumfries would be most successful.

*Inverness Show, 1923.*

Mr A. B. LEITCH, Inchstelly, reported that the arrangements for the Inverness Show in 1923 were proceeding satisfactorily. The Town Council of Inverness had again placed at the disposal of the Society the Victoria Park as a site for the Show, and had expressed their willingness to do everything in their power to forward the success of the Show.

*Perth Show, 1924.*

Mr DAVID FERRIE of Parbroath reported that arrangements were proceeding for the Show of 1924, to be held at Perth. The Town Council had expressed its desire to place every facility, including a free site, supply of water, gas, and electricity, at the disposal of the Society.

*Implements.*

Mr P. O. TURNBULL, Convener of the Implements Committee, reported that the Directors had made arrangements for a Demonstration of Farm Tractors and Tractor Implements, to be held from the 17th to the 20th October of the current year. The Demonstration would take place at Fordel, Dalkeith, where a capital site had been secured through the courtesy of the tenant of the farm, Mr Thomas Harper. Entries were invited of (a) Farm Tractors not exceeding 40 cwt. in weight, (b) Tractor Implements of all kinds, and (c) Implements suitable for Smallholders, Fruit Growers, and Market Gardeners. Entries closed on 10th July. It was hoped that a representative

entry of Tractors and Implements would be obtained, in which case an interesting and instructive demonstration was assured.

Mr TURNBULL further mentioned that several manufacturers had expressed a desire to enter tractors which were over the 40-cwt. limit in weight. The Committee had decided to take these entries in the meantime, and if it were found possible to secure sufficient ground, say in an adjoining field, they would be allowed to be shown at work during the Demonstration.

#### *Agricultural Education.*

Mr CHARLES DOUGLAS, D.Sc., C.B., of Auchlochan, Convener, submitted a Report on the examination held at Leeds in April last for the National Diploma in Agriculture. 252 candidates presented themselves for examination. 74 candidates were from Scotland.

As a result of the examination, 77 diplomas were awarded, 1 with Honours.

Of the 252 candidates, 35 appeared for all the subjects, and of these 16 passed; 86 had passed certain subjects previously, and were completing the examination this year, and of these 61 obtained the diploma. The remaining 131 candidates presented themselves for a group of three or four subjects, and of these 65 passed in the subjects for which they appeared, and were entitled to appear for the remaining subjects in 1923.

#### *Publications.*

Mr CHARLES DOUGLAS, D.Sc., C.B., Convener of the Publications Committee, said he was glad to be able to inform the members that the 'Transactions' for the current year were now in print, and they hoped these would be in the hands of members during the present month. He wished to take that opportunity of acknowledging most gratefully, on behalf of the Directors, the forbearance and consideration of the members in connection with the preparation of the 'Transactions.' That was in consideration of the war and the post-war period, and they hoped, now that they had returned to the old arrangements, to be able to continue to issue the 'Transactions' in the month of June.

One particular feature of the present volume was an article on the Construction of Byres, the greater part of which had been prepared by an architect, and dealt with seven existing byres of the modern type. The Directors would have liked to give along with the account of these byres a set of plans showing the different byre constructions which were thought to be typical and useful, and which were actually in existence, but on account of the compression of space that was required they could not be published in the 'Transactions.' The original plans had found a place in the library of the Society, where they would be available for the use of members. It was hoped that these plans would be found helpful by members who proposed to build new byres in the near future.

#### *Report by Chemist.*

Dr J. F. TOCHER, Consulting Chemist to the Society, submitted a Report on the work done in his department during the past half-year.

The substance of Dr Tocher's Report appears on pp. 153-162 of this volume.

The proceedings terminated with a cordial vote of thanks to the Chairman, on the motion of Sir HUGH SHAW STEWART, Bart., C.B.

### GENERAL MEETING OF MEMBERS HELD IN THE SHOWYARD, DUMFRIES, 19TH JULY 1922.

The EARL OF STAIR, D.S.O., President of the Society, in the Chair.

The PRESIDENT, in opening the Meeting, said that that meeting had an importance of its own, as this year the Highland Society was celebrating the hundredth anniversary of its first Show. On the previous evening he was reading Mr Stirton's most interesting article in the 'Transactions' on that subject, and he could not fail to be impressed with the foresight of the founders. He would like to read a sentence from the speech of Sir John Sinclair at the first dinner of the

Society. If Sir John Sinclair was looking on at that Show from his present abode he might well be satisfied with the results of his labours and the immense development that had taken place. He said: "I have long wished to see meetings assembled in Scotland for promoting the improvement of our live stock, and I am happy to find that under the auspices of the Highland Society of Scotland they have commenced in this metropolis—Edinburgh—with so much probability of success. Such meetings are of great use in various respects. They are the means of circulating valuable information. They excite a spirit of improvement, and much advantage is derived from the business which they occasion, and from the opportunities which they afford of viewing the various descriptions of stock which the country possesses, and comparing their respective properties and defects. A Bakewell or a Culley by great skill and ability and perseverance may do much in ameliorating any particular breed, but the improvement of the general stock of a nation can never take place without such meetings as the one which we have this day witnessed." History repeated itself in the most extraordinary way. There was another sentence written in the same year by a Perthshire contributor to the 'Scots Magazine' which he would like to quote. It had an unpleasant resemblance to the conditions of the present day. He said: "The golden days of agricultural prosperity have come to a termination; habits of luxury or of splendour on the part of the farmer must now be dispensed with." Personally, he was not a pessimist. He was hopeful that they were now past the worst of it. Even the Administration of the country was beginning to realise that the agricultural community had been bearing more than its fair share of the burden. The unfortunate thing was that the House of Commons—no matter what party was in power—was always dominated by a majority of people who did not really know anything about agriculture, and who were inclined to regard the farming community as the natural enemies of the consumers in the towns. He was afraid that state of mind was bound to continue in all Parliaments, and the only thing they could hope for was as little interference from such bodies as possible. All the agricultural community asked was to be treated no better and no worse than any other form of industry, whether as regards taxation or outside interference. If they were treated as any other industry they would be perfectly capable of standing on their own legs and giving a lead to the rest of the world in what was after all the chief industry of the country, just as they had done in the past in that and other industries.

*Votes of Thanks.*

Sir HUGH SHAW STEWART, Bart., Chairman of Directors, moved: "That a cordial vote of thanks be given to the Provost, Magistrates, and Town Council of Dumfries for their assistance and co-operation, and for their financial contribution to the Show funds." He said it had been suggested to him that, as a few months ago some publicity was given to a little difficulty that arose regarding the supply of gas for the Show, he should assure those present that that difficulty was soon overcome, and that the Provost and the Council had done everything they could to assist the Show in every way.

Colonel F. J. CARRUTHERS of Dormont, Lockerbie, Convener of the Shows Committee, seconded, and the motion was cordially agreed to.

Provost MACAULAY, Dumfries, thanked the members for their vote of thanks. Referring to the gas supply, he said there was a little misunderstanding, but when the gas manager got to know what was required he and Mr Stirton, the Society's secretary, adjusted matters very well. The Town Council, he assured the Meeting, tried to do everything they could to help the Show.

Mr CHARLES DOUGLAS, D.Sc., C.B., of Auchlochan, Hon. Secretary of the Society, moved a vote of thanks to the Convener and Members of the Local Committee for the successful manner in which they had carried through the Show arrangements. He said that while the Highland Society met with varying fortunes in other respects in different parts of the country, there was one matter in which they could rely on equal treatment wherever they went, and that was the vigour, energy, and success with which the Local Committees carried out their important duties. Dumfries was no exception to that rule, and there, as elsewhere, they relied, and not in vain, on the help of their friends and Members in that district. Dumfries was one of the most charming and attractive places in which they held their Show, but he was not sure that it was one in which it was easiest to make arrangements. Colonel Dudgeon and the Local Committee, however, had successfully overcome all the difficulties of their anxious task.

Mr J. T. M'LAREN, The Leuschoold, Dalmeny, in seconding, said they had had one of the most pleasant show-grounds he had seen, and with the assistance and advice of the engineer, the Local Committee had given them everything they could desire.



Colonel R. F. DUDGEM, Convener of the Local Committee, replying, said that every one on the Committee desired to do their best to make the Centenary Show a credit to the district which had had the privilege of being selected as the site for that auspicious event. They admired the manner in which their civic brethren performed their duties alongside their agricultural comrades. On this occasion they recalled with pride the services rendered by the late Dr Gillespie in making the Society one of the finest agricultural institutions of the world.

*The Knockbrex Challenge Cup.*

The PRESIDENT accepted, on behalf of the Society, the challenge cup which had been presented by Mrs Brown of Knockbrex for competition among Belted Gallows. They expressed, he said, their most grateful thanks to Mrs Brown for the magnificent cup.

On the motion of Mr DAVID FERRIE of Parbroath, a vote of thanks was accorded to the President.

The EARL OF STAIR, in acknowledging, said he believed the Show was going to celebrate the hundredth anniversary of the first Show by making a record, at any rate for this district, both for entries and for general results. He only wished that the Society could be persuaded to come to that part of Scotland a little oftener.

ANNIVERSARY GENERAL MEETING, 10TH JANUARY 1923.

Sir KENNETH MACKENZIE of Gairloch, Bart., Vice-President, in the Chair.

*New Members.*

Two hundred and seventy-six candidates for election were balloted for and admitted Members of the Society.

*Vacancy on Board of Directors.*

Sir HUGH SHAW STEWART, Bart, Chairman of Directors, moved a recommendation of the Board of Directors, that Mr James Durno, Crichtie, Inverurie, be elected an ordinary Director for the Aberdeen Division, to fill the vacancy caused by the death of his father, the late Mr James Durno, Upper Mill.

Mr ARCHIBALD MCNEILAGE, in seconding, said that as the son of Mr James Durno, Upper Mill, one of the ablest men Aberdeenshire ever knew, it was fitting that Mr James Durno, jun., should be elected to fill the vacancy.

The motion was agreed to.

*Finance.*

Mr J. T. McLAREN, Dalmeny, in the absence of the Treasurer, submitted the Accounts of the Society for the year to 30th November 1922. The receipts for the year from all sources reached a total of £32,345, 11s. 10d. This sum exceeded the outlays by £1222, 7s. 1d., and included life subscriptions to the amount of £1976, 0s. 6d. In the past year the expenditure on educational work amounted to £178, 3s. 2d., and on work in the chemical, veterinary, and botanical departments to £1643, 4s. 1d.

Mr McLAREN, in moving approval of the Report and Accounts, said the expenses were normal with the exception of two items, one of which was the sum (over £900) that had been expended in investigating the fell disease of "grass sickness." The Members would recognise that, although the experts at the moment were not quite agreed as to the exact results of the investigation, the money had been well spent. A sum of £500 had also been spent in a grant given to the Joint-Committee on Research in Animal Breeding. Members would also recognise that this sum had been well spent.

He also moved the approval of the usual grant of £5 to the Society for the Prevention of Cruelty to Animals, for the year 1923.

Captain JOHN MACGILLIVRAY of Calrossie seconded, and the motion was agreed to.

*Special Grant.*

Sir HUGH SHAW STEWART, Bart., moved the approval of a grant of £500 to the University of Aberdeen and North of Scotland College of Agriculture Joint Com-

mittee on Research in Animal Nutrition. This was a contribution to the fund being raised to defray the cost of the Experimental Farm Buildings and Stock Farm. The amount of the grant was the same as that given to the Joint Committee on Research in Animal Breeding. He knew some would have liked to have given a larger sum, but the Directors as a whole had to consider what proportion their donations bore to the subjects of their support in the different areas. They founded their action on the practice of the past, which had been not to differentiate, if possible, between the different areas of the country.

Sir JOHN HOPKINS seconded.

Mr ARCHIBALD MCNEILAGE asked if it was competent to move that the grant be made £1000?

The CHAIRMAN replied that if an amendment to the proposal was carried it would have to be referred back to the Directors, who would refer it to the Finance Committee, and that would delay the giving of any grant.

Mr MCNEILAGE moved, as an amendment, that it be remitted back to the Directors, and that the grant be £1000. The arguments of Sir Hugh Shaw Stewart were not applicable to the Station for Research in Animal Nutrition. There was all the difference in the world between the Station for Animal Nutrition and the experimental work which was in Sir Hugh Shaw Stewart's mind when he moved the resolution. He hoped that every one in that room would go to Bucksburn and see the Station there, and, if they did, none of them would challenge the proposition that nothing else like that Nutrition Station at Aberdeen had been attempted in Scotland or in the British Isles. It was by far the best equipped station of the kind they would find anywhere, and although it was only in its infancy and had been able only to do one or two things, the one or two things it had done were a sufficient guarantee for the future service which it was capable of rendering to agriculture. He thought the proposed grant of £500 from that Society to such a station, with such an equipment and such a staff as it had, was scarcely worthy of Scotland. Scotland could afford to be in the forefront here and back up an institution which was not only the best here, but the best anywhere else in reducing the cost of production and increasing the getting of profit from stock-breeding in all its branches.

Mr POOL seconded. He said he was not connected with the rearing of cattle, but he had had considerable opportunity of acquiring knowledge regarding what was being done in this direction in Canada, the United States, Sweden, and Denmark. He had also gained some knowledge as a Director of the Dick Veterinary College for some years past. From the results which had been gained from these investigations he knew that animal nutrition was a most important question.

Dr TOCHER said it should be made clear that this Institution was not under the North of Scotland Agricultural College. It was a national institution controlled by a joint committee, which happened to be composed of equal numbers from the University of Aberdeen and the North of Scotland College of Agriculture. It was not a branch of the North of Scotland College of Agriculture.

On the call of the Chairman, the SECRETARY explained that the matter had been before two meetings of the Board, and very much the same discussion took place at these meetings. He pointed out that any proposal to alter the amount would endanger any grant being given at that date; that was to say, if they were not agreed that day on the sum which was recommended, then nothing could be given until the next Half-yearly General Meeting in June, because, according to the Society's charter, any grant of money must pass two meetings of Directors, and then a General Meeting. The Directors agreed to allow the £500 to go, and he gathered some of them had a mental reservation that they might bring up, later on, the question of a further grant. This research institution in Aberdeen was on the same footing as the corresponding institution in Edinburgh. He was sorry to contradict Dr Tocher. It was not a national institution in the same sense as the Plant Breeding Society or the Animal Diseases Research Association. They were voluntarily organised, and were controlled by a governing body elected by members throughout Scotland. The Animal Nutrition and Animal Breeding stations were not voluntarily started by the agriculturists of the country. They were initiated by the Development Commissioners, and embodied their idea as to how research was to be organised in Scotland. It was, therefore, not so necessary that this national Agricultural Society should give financial support. They indicated their very good will by what was, after all, a fairly handsome donation; but these bodies were managed by joint committees in Aberdeen or Edinburgh of the College and University, and were not on the same footing as the Animal Diseases Research Association, which had got £1000, and which was a truly national institution.

Captain JOHN MCGILLIVRAY said, as a stockbreeder, he considered that if the Animal Nutrition Station was to get £1000, the Animal Diseases Research Association should receive much more. There were many diseases to contend with, such as

braxy, "grass sickness," abortion, and many others. The important thing was to keep the animals alive in the first instance. The feeding of them was not such a difficult matter.

On a vote being taken, 15 voted for the amendment and 24 for the motion, which was declared duly carried.

The CHAIRMAN said he was sure that what had been said in this discussion would receive serious consideration by the Directors during the coming year.

#### *Argyll Naval Fund.*

Sir HUGH SHAW STEWART, Bart., submitted the report on the Argyll Naval Fund for 1921-1922, which showed that the income for the year amounted to £361, 17s. 3d. while the expenditure was £280, in grants to nine naval cadets.

#### *Dumfries Show, 1922.*

Colonel F. J. CARRUTHERS of Dormont, Lockerbie, reported upon the Dumfries Show of last year. This was the ninety-first general Show held by the Society, and the occasion marked the hundredth anniversary of the first Show, which was held in Edinburgh in 1822. The Show, as on a former occasion, was held at Rotchell Park. Six acres of additional ground were secured in an adjacent field, and this extra space greatly facilitated the laying out of the Showyard, which, when completed, was highly attractive and convenient. The weather, on the whole, was favourable, considering that the season was unduly wet. Rain fell on the Thursday afternoon and evening, but this probably interfered only slightly with the attendance, which was very large. The drawings at the gate and grand stands, &c., reached a total of £11,452, more than three times the amount drawn at Dumfries in 1910, and only £1300 less than the drawings at Stirling in 1921. In regard to Stock, Implements, and Machinery, the number of entries, compared with preceding years, was well maintained, and the quality of the exhibits in all sections was of a high order. A new feature of the Show was a section for Women's Rural Industries, which attracted a large entry and was a source of much interest. A new pavilion for lady members, with a permanent frontage, was also erected, this being intended to provide a memento of the hundredth anniversary of the first Show. The accommodation thus provided was much appreciated by the increasing number of lady members, and by lady friends of members to whom it was made available. The town of Dumfries gave a supply of water free of charge, together with a donation of £50 to the Show funds. The estimated profit on the Show was about £1084. In addition, the Society had this year retained timber to the value of £400, which would be used at the Inverness Show, and the cost of the Lady Members' Pavilion, amounting to £250, had been defrayed out of the Show funds. If these two items were taken into account there was a probable credit balance of about £1734.

#### *Inverness Show, 1923.*

Mr A. B. LEITCH, Convener of the Shows Committee, reported on the arrangements for the Show of this year, to be held at Inverness. The date of the Show had now been fixed for the 17th to 20th July. The Victoria Park, a convenient and beautifully situated site, had again been made available, through the courtesy of the Town of Inverness, which was co-operating in every way to further the success of the Show. The Prize List, which was in course of preparation, was on the usual liberal scale of recent years, and extra classes had been introduced for Shorthorns, Aberdeen-Angus, and British Friesians. A sum of £3318 was being offered in Prizes from the Society's own funds. This compared with £2415 in 1911. In addition, there were the usual large number of valuable Challenge Cups, Medals, and Special Prizes. The Directors were hopeful, if the Meeting were favoured with good weather, that the Show at Inverness—the farthest north point of the Show circuit—would attain a measure of success comparable with the results of recent Shows in more populous centres.

Mr LEITCH said he might add that the Directors had that day agreed to provide new classes for Dairy Shorthorns, which they hoped would get the requisite number of entries to warrant the prizes being given. These classes had been tried before, and only one exhibitor entered. They had had a representation from the Breed Societies this year on the subject, and they wanted to give Dairy Shorthorns another chance of coming to the front.

*Perth Show, 1924.*

Mr T. A. BUTTAR, Corston, Cupar-Angus, reported that arrangements for the Show of 1924, to be held at Perth, were proceeding satisfactorily. The Town Council proposed to give all possible facilities for holding the Show, including a site and a supply of water, and probably also gas and electricity, free of charge.

*Show of 1925.*

Mr JOHN SPEIR, Newton, moved: That provided a suitable site is available, and satisfactory financial and other arrangements can be made, the Society's Show of 1925 be held in the Glasgow Show Division.

Mr ALEX. MURDOCH seconded, and the motion was unanimously agreed to.

Mr McNEILAGE asked if any one could give any information as to the possible site of the Glasgow Show. He urged that the Society should exert their influence to try to get the Show in the City of Glasgow, as it was of vital importance to bring it to the heart of the biggest urban population in Scotland. There was a great tendency to imagine that urban people had no interest in agriculture, and if the Show was taken away to some village—and there were several villages claiming to have it—the chances of its educative influence were comparatively slight. They should try to get the Glasgow Town Council to give a site within the city bounds. The real difficulty, however, was the Labour Party. The Labour Party had the view that shutting the people out of one of their parks for a considerable length of time in midsummer was detrimental to the health of the people. There was a great deal to be said for that observation, but the answer was clearly that an agricultural show and agriculture itself were of vital importance to the health of the people, and though they might sacrifice some enjoyment in the parks for a few weeks, they would be getting far more than an equivalent return through the educational advantages of the Show.

The CHAIRMAN said that Mr McNeilage's remarks would no doubt fall upon receptive ears.

*Implements.*

Mr P. O. TURNBULL, Convener of the Implements Committee, reported that a Demonstration of Farm Tractors and Tractor Implements, arranged by the Directors, had taken place at Fordel, Dalkeith, on 17th, 18th, 19th, and 20th October. There was a gratifying entry, including 17 Tractors, 2 Rotary Tillers, 26 Ploughs, 13 Cultivators and Grubbers, 10 Harrows, and several other implements. The performance of the tractors, and the quality of the work done, showed a marked improvement compared with the Society's previous Demonstration in 1917. Since the Demonstration a Special Committee had been engaged in the preparation of a full Report, which was now practically completed, and which would be issued in the course of the current month.

In conclusion, he said he might explain that the reporting Committee had completed their Report a month ago, but delay had taken place owing to some of the implement makers not sending in their descriptions, illustrations, and details. He understood they were all in hand now, and the Report would be sent out this month. The blame did not rest with the Society or with the Reporting Committee.

*Grants to Local Societies.*

Mr G. BERTRAM SHIELDS, Dolphinstone, Tranent, submitted the report on District Shows and Competitions, showing that in 1922 grants of money and medals had been given in 71 districts. The total expenditure under this head amounted to £729, 1s. 10d. For the current year the Directors proposed the following grants: Under section 1, fourteen districts for grants of £12 each for cattle, horses, and sheep, and fifteen districts in intermediate competition, with a grant of three silver medals to each; Under section 2, eleven districts for grants of £15 each for stallions; special grants of £15 to the Northern Arts and Crafts Society; £40 for Federations of Women's Rural Institutes; £20 to Kilmarnock Cheese Show; £3 each to Orkney, Sanday, East Mainland—Orkney, West Mainland—Orkney, Walls and Hoy, and Kilmuir; a gold medal and a silver medal to the British Dairymaids' Association; twelve districts for two medals each; the usual medals at ploughing and hoeing competition; two medals each to six districts for cottages and gardens; Long Service Medals and Certificates, say, £107, 10s.—making the total sum offered in 1923, £700, 19s. 6d.

Mr SHIELDS added that he was sorry he had not been able to be present at the Committee Meeting that day, at which it was moved, seconded, and carried, that a

very unique grant be made in 1923, and he thought that all the members of the Society would be highly gratified at the decision. It was a grant to be made to a couple in Arran who had each won the Long Service Certificate and Medal of the Society. Their long service had culminated in their marriage. A small Committee had been appointed to buy them a gift of the value of £10.

#### *Science.*

##### *Report by Chemist.*

DR J. F. TOCHER, Consulting Chemist to the Society, reported on the work of his department during the year 1922.

The substance of Dr Tocher's report appears on pp. 153-162 of this volume.

Dr Tocher further said he should like to mention that a Report of the work performed by himself and his co-workers on "Grass sickness" had been given at a meeting of the National Veterinary Association which was held at Perth on 15th December 1922. He understood that the papers read and the discussion which followed would appear in an early number of the 'Veterinary Record.'

Dr Tocher then submitted the following summary of the results of the investigation:—

"(1) The toxin-producing organism known as the *bacillus botulinus* was a constant organism in all the cases examined.

"(2) We have been able to reproduce the clinical symptoms and post-mortem appearances of 'grass sickness' in small experimental animals and also in horses by means of the toxin formed in 'grass-sickness' *botulinus* cultures. These clinical symptoms and post-mortem appearances are identical with those of botulism.

"(3) The bloods of all horses which have had 'grass sickness' in the subacute form, and which were alive at the time the specimens were drawn, possessed the property of neutralising the toxic poison produced by the *b. botulinus* obtained from an external, that is to say, a non-grass-sickness source. If the disease is not botulism, this neutralisation and consequent protection to the animal could not have taken place.

"(4) We have been able to protect horses against this disease to a very large extent by the administration of a toxin-antitoxin mixture or preventive serum, not prepared from 'grass-sickness' cultures but prepared from known strains of the *b. botulinus* obtained from an external or non-grass-sickness source. The odds in favour of inoculation reducing the death-rate are 1,750,000 to 1. If 'grass sickness' is not identical with botulism, this reduction in the death-rate by inoculation of a *botulinus* mixture from a non-grass-sickness source could not have occurred.

"These results are, therefore, conclusive as proving that 'grass sickness' is botulism. Horses should, therefore, be protected by the use of the preventive serum prepared by Mr Buxton. A supply is now available on a commercial basis."

#### *Education.*

Colonel F. J. CARRUTHERS reported on the results of the twenty-seventh examination held last autumn for the National Diploma in Dairying. At the examination in England there were 68 candidates, of whom 41 obtained the diploma and 17 failed; at the examination in Kilmarnock there were 41 candidates, 29 getting the diploma and 12 failing. The Diploma with Honours was awarded to five of the successful candidates at the English centre, and four at the Scottish centre. The names of the successful candidates, as well as the names of the winners of the National Diploma in Agriculture at the examination held last April, will be published in the next volume of 'Transactions.'

The examinations for these diplomas will again be held during the ensuing year.

The Society's examinations for First and Second Class Certificates in Forestry will be held here this year on 20th, 21st, and 22nd March, provided a sufficient number of candidates present themselves for examination.

¶ On the motion of Sir HUGH SHAW STEWART, Bart., a cordial vote of thanks was accorded to Sir Kenneth Mackenzie for presiding.

# APPENDIX A

## PREMIUMS

OFFERED BY

### THE HIGHLAND AND AGRICULTURAL SOCIETY OF SCOTLAND IN 1923

#### CONTENTS.

	PAGE
GENERAL NOTICE . . . . .	3
CONSTITUTION AND MANAGEMENT . . . . .	3
PRIVILEGES OF MEMBERS . . . . .	4
ESTABLISHMENT FOR 1922-1923 . . . . .	5
COMMITTEES FOR 1922-1923 . . . . .	7
MEETINGS FOR 1923 and 1924 . . . . .	12
EXAMINATIONS FOR 1923 . . . . .	13
AGRICULTURAL EDUCATION . . . . .	14
VETERINARY DEPARTMENT . . . . .	22
FORESTRY DEPARTMENT . . . . .	22
DAIRY DEPARTMENT . . . . .	30
CHEMICAL DEPARTMENT . . . . .	36
BOTANICAL DEPARTMENT . . . . .	46
ENTOMOLOGICAL DEPARTMENT . . . . .	48
GENERAL REGULATIONS FOR COMPETITORS . . . . .	49

#### CLASS I.—REPORTS.

1. THE SCIENCE AND PRACTICE OF AGRICULTURE—FOR APPROVED REPORTS ON—
  1. Rural Economy abroad susceptible of being introduced into Scotland . . . . . 50
  2. Other suitable subjects . . . . . 50
2. ESTATE IMPROVEMENTS—FOR APPROVED REPORTS ON—
  1. General Improvement of Estates by Proprietors . . . . . 50
  - 2, 3, and 4. Reclamation of Waste Land by Proprietors or Tenants . . . . . 50
  - 5 and 6. Improvement of Natural Pasture by Proprietors or Tenants . . . . . 51
3. HIGHLAND INDUSTRIES AND FISHERIES—FOR APPROVED REPORTS ON—
  1. Mode of treating Native Wool . . . . . 51
4. MACHINERY—FOR APPROVED REPORTS . . . . . 51

**5. FORESTRY DEPARTMENT—FOR APPROVED REPORTS ON—**

1. Planting on Peat-bog . . . . .	51
-----------------------------------	----

**CLASS II.—DISTRICT COMPETITIONS.**

1. GRANTS TO LOCAL SOCIETIES . . . . .	52
2. GRANTS TO HORSE ASSOCIATIONS . . . . .	56
3. SPECIAL GRANTS . . . . .	58
4. MEDALS in aid of Premiums given by Local Societies . . . . .	59
5. PLOUGHING AND HOEING COMPETITIONS . . . . .	62
6. LONG SERVICE CERTIFICATES AND MEDALS . . . . .	63

**CLASS III.—COTTAGES AND GARDENS.**

1. PREMIUMS for BEST KEPT COTTAGES and GARDENS . . . . .	64
2. MEDALS for COTTAGES and GARDENS, or GARDEN PRODUCE, POULTRY, and BEE-KEEPING . . . . .	65

GENERAL SHOW AT INVERNESS IN 1923 . . . . .	67
---	----

## GENERAL NOTICE.

**THE HIGHLAND SOCIETY** was instituted in the year 1784, and incorporated by Royal Charter in 1787. Its operation was at first limited to matters connected with the improvement of the Highlands of Scotland; but the supervision of certain departments, proper to that part of the country, having been subsequently committed to special Boards of Management, several of the earlier objects contemplated by the Society were abandoned, while the progress of agriculture led to the adoption of others of a more general character. The exertions of the Society were thus early extended to the whole of Scotland, and have since been continuously directed to the promotion of the science and practice of agriculture in all its branches.

In accordance with this more enlarged sphere of action, the original title of the Society was altered, under a Royal Charter, in 1834, to **THE HIGHLAND AND AGRICULTURAL SOCIETY OF SCOTLAND**.

Among the more important measures which have been effected by the Society are—

1. Agricultural Meetings and General Shows of Stock, Implements, &c., held in the principal towns of Scotland, at which exhibitors from all parts of the United Kingdom are allowed to compete.
2. A system of District Shows instituted for the purpose of improving the breeds of Stock most suitable for different parts of the country, and of aiding and directing the efforts of Local Agricultural Associations.
3. The encouragement of Agricultural Education, under powers conferred by a supplementary Royal Charter, granted in 1856, and authorising the Society to grant Diplomas to Students of Agriculture; and by giving grants in aid of education in Agriculture and allied sciences. In 1900 the Society discontinued its own Examination, and instituted jointly with the Royal Agricultural Society of England an Examination for a National Diploma in Agriculture.
4. The advancement of the Veterinary Art, by conferring Certificates on Students who have passed through a prescribed curriculum, and who are found, by public examination, qualified to practise. Terminated in 1881 in accordance with arrangements with the Royal College of Veterinary Surgeons.
5. The institution of a National Examination in Dairying, jointly with the Royal Agricultural Society of England.
6. The institution of an Examination in Forestry for First and Second Class Certificates.
7. The appointment of a chemist for the purpose of promoting the application of science to agriculture.
8. The establishment of a Botanical Department.
9. The appointment of Entomologist to advise members regarding insect pests.
10. The annual publication, of the 'Transactions,' comprehending papers by selected writers, Prize Reports, and reports of experiments, also an abstract of the business at Board and General Meetings, and other communications.
11. The management of a fund left by John, 5th Duke of Argyll (the original President of the Society), to assist young natives of the Highlands who enter His Majesty's Navy.

## CONSTITUTION AND MANAGEMENT.

The general business of **THE HIGHLAND AND AGRICULTURAL SOCIETY** is conducted under the sanction and control of the Royal Charters, referred to above, which authorise the enactment of Bye-Laws.

The Office-Bearers consist of a President, Four Vice-Presidents, Thirty-two Ordinary and Twenty Extraordinary Directors, a Treasurer, an Honorary and an Acting Secretary, an Auditor, and other Officers.

The Supplementary Charter of 1856 provides for the appointment of a Council on Education, consisting of Sixteen Members—Nine nominated by the Charter, and Seven elected by the Society.



## PRIVILEGES OF MEMBERS

### MEMBERS OF THE SOCIETY ARE ENTITLED—

1. *To receive a free copy of the 'Transactions' annually.*
2. *To apply for District Premiums that may be offered.*
3. *To report Ploughing Matches for Medals that may be offered.*
4. *To Free Admission to the Shows of the Society.*
5. *To exhibit Live Stock and Implements at reduced rates.<sup>1</sup>*
6. *To have Manures and Feeding-Staffs analysed at reduced fees.*
7. *To have Seeds tested at reduced fees.*
8. *To have Insect Pests and Diseases affecting Farm Crops inquired into.*
9. *To attend and vote at General Meetings of the Society.*
10. *To vote for the Election of Directors, &c., &c.*

### ANALYSIS OF MANURES AND FEEDING-STUFFS

The Fees of the Society's Chemist for Analyses made for Members of the Society shall, until further notice, be as follow :—

The estimation of one ingredient in a manure or feeding-stuff	:	:	:	5s.
The estimation of two or more ingredients in a manure or feeding-stuff	:	:	:	10s.

*These charges apply only to analyses made for the sole and private use of Members of the Highland and Agricultural Society who are not engaged in the manufacture or sale of the substances analysed.*

The Society's Chemist, if requested, also supplies valuations of manures, according to the Society's scale of units.

### SEEDS, CROP DISEASES, INSECT PESTS, &c.

The rates of charges for the examination of plants and seeds, crop diseases, insect pests, &c., will be had on application to the Secretary.

### ELECTION OF MEMBERS

Candidates for admission to the Society must be proposed by a Member, and are elected at the half-yearly General Meetings in January and June. It is not necessary that the proposer should attend the Meeting.

### CONDITIONS OF MEMBERSHIP

*Higher Subscription.*—The ordinary annual subscription is £1, 3s. 6d., and the ordinary subscription for life-membership is £12, 12s.; or after ten annual payments have been made, £7, 7s.

*Lower Subscription.*—Proprietors farming the whole of their own lands, whose rental on the Valuation Roll does not exceed £500 per annum, and all Tenant-Farmers, Secretaries or Treasurers of Local Agricultural Associations, Factors resident on Estates, Land Stewards, Foresters, Agricultural Implement Makers, and Veterinary Surgeons, none of them being also owners of land to an extent exceeding £500 per annum, and such other persons as, in respect of their official or other connection with Agriculture, the Board of Directors may consider eligible, are admitted on a subscription of 10s. annually, which may be redeemed by one payment of £7, 7s., and after eight annual payments of 10s. have been made, a Life Subscription may be purchased for £5, 5s., and after twelve such payments, for £3, 3s.<sup>2</sup> Subscriptions are payable on election, and afterwards annually in January.

Members are requested to send to the Secretary the names and addresses of Candidates they have to propose (stating whether the Candidates should be on the £1, 3s. 6d. or 10s. list).

JOHN STIRTON, *Secretary.*

3 GEORGE IV. BRIDGE, EDINBURGH.

<sup>1</sup> Firms are not admitted as Members; but if one partner of a firm becomes a Member, the firm is allowed to exhibit at Members' rates.

<sup>2</sup> Candidates claiming to be on the 10s. list must state under which of the above designations they are entitled to be placed on it.

# ESTABLISHMENT FOR 1922-1923.

## President.

THE MACKINTOSH OF MACKINTOSH, Moy Hall, Inverness.

## Vice-Presidents.

THE DUKE OF SUTHERLAND, Dunrobin Castle, Golspie.  
 LORD LOVAT, C.B., D.S.O., K.C.V.O., A.D.C., Beaufort Castle, Beauly.  
 Sir HECTOR MUNRO of Foulis, Bart., Foulis Castle, Evanton.  
 Sir KENNETH J. MACKENZIE of Gairloch, Bart., Conan House, Conan  
 Bridge, Ross-shire.

Year of  
 Election.

## Ordinary Directors.

- |      |   |
|------|---|
|      | R. A. SMITH, Wester Lovat, Beauly.<br>WILLIAM MEIKLEM, Begg, Kirkcaldy.<br>Sir HUGH SHAW STEWART, O.B., of Greenock and Blackhall, Bart.,<br>Ardgowan, Inverkip.  |
| 1919 | H. B. MARSHALL of Rachan, Broughton.<br>THOMAS KIRK of Abbey Mains, Haddington.<br>JAMES DURNO, Crichtie, Inverurie. (Elected January 1923.)<br>JAMES M'LAREN, Cornton, Stirling.<br>W. P. GILMOUR, Balmangan, Kirkcudbright.   |
| 1920 | THOMAS A. BUTTAR, Cornton, Coupar-Angus.<br>JOHN SPEIR, Newton Farni, Newton, Glasgow.<br>JAMES GRIEVE, Rumbletonlaw, Greenlaw.<br>J. T. M'LAREN, The Leuchold, Dalmeny House, Edinburgh.<br>WILLIAM LOW of Balmakewan, Marykirk, Montrose. (Elected Jan-<br>uary 1922.)<br>JAMES R. LUMSDEN of Arden, Dumbartonshire.<br>JAMES M'QUEEN of Crofts, Dalbeattie.<br>General Sir WALTER CHARTERIS ROSS, K.B.E., C.B., of Cromarty<br>Cromarty.   |
| 1921 | Lieut.-Col. W. T. R. HOULDSWORTH of Kirkbride, Maybole.<br>Major MARK SPROT of Riddell, Lilliesleaf.<br>Colonel Sir JOHN A. HOPE, of Craighall, Bart., Pinkie House,<br>Musselburgh. (Elected June 1922.)<br>JOHN P. SLEIGH, St John's Wells, Fyvie.<br>ALEXANDER ROBERTSON, Estate Office, Polmaise, Stirling.<br>GEORGE WILL, Crichton Royal Institution, Dumfries.<br>ANDREW B. LEITCH, Iuchstelly, Alves, Forres.<br>The DUKE OF ATHOLL, K.T., C.B., M.V.O., D.S.O., Blair Castle, Blair<br>Atholl. |
| 1922 | DUNCAN M'LAREN of Fairnington, Roxburgh.<br>G. BERTRAM SHIELDS, Dolphinstone, Tranent.<br>FALCONER L. WALLACE of Balcairn, Tillypronie, Tarland (40 Brook<br>Street, Grosvenor Square, London, W. 1).<br>JAMES RODGER, Rochdale Lodge, Abercromby Drive, Bridge of Allan.<br>Colonel F. J. CARRUTHERS of Dormont, Lockerbie.<br>JOHN MACGILLIVRAY of Calrossie, Nigg, Ross-shire.<br>JOHN STEWART of Struthers, Cupar-Fife.<br>ALEXANDER MURDOCH, East Hallside, Newton, Glasgow.                       |

### Extraordinary Directors.

- 1921 { **MOFFAT S. THOMSON** of Lambden, Spotsmans, Kelso.  
**ALEXANDER COWAN**, Valleyfield, Penicuik.  
**ALEXANDER FORBES**, Rennie, Banff.  
**WILLIAM POOLE, J.P.**, Englewood, Blackhall.  
Colonel **J. L. REID** of Cromley Bank, Ellon.  
**JOHN M'CAIG** of Belmont, Stranraer.
- 1922 { .....  
**PHIPPS O. TURNBULL**, Smeaton, Dalkeith.  
**J. ERNEST KEER** of Harviestoun Castle, Dollar.  
**ROBERT MACMILLAN** of Holm of Dalquhairn, Woodlea, Moniaive.

### Shew District.

- 1922 { **J. F. CUMMING**, The Dowans, Aberlour.  
Lieut.-Colonel **T. W. CUTHBERT, C.M.G., D.S.O.**, Achindunie, Alness.  
**WILLIAM FENWICK**, Darnaway Estates Office, Earlsmill, Forres.  
**RALPH S. M'WILLIAM**, Garguston, Muir of Ord.  
**WALTER MUNDELL**, Dalchork, Delny House, Delny.  
**ALEXANDER MUNRO** of Leanach, Culloden Moor, Inverness.  
**DAVID PETRIE**, Provost of Inverness.  
**JOHN ROBSON, jun.**, of Lynegar, Watten, Caithness.  
**JAMES SCOTT**, Fearn, Ross-shire.  
**CHARLES F. TULLOCH**, Braevail, Lethen, Nairn.

### Office-Bearers.

- Sir DAVID WILSON, Bart., D.Sc.**, of Carbeth, Killearn, *Treasurer*.  
**CHARLES DOUGLAS, D.Sc., C.B.**, of Auchlochan, Lesmahagow, *Honorary Secretary*.  
**Rev. A. WALLACE WILLIAMSON, D.D.**, 44 Palmerston Place, *Chaplain*.  
**JOHN STIRTON**, *Secretary*.  
**EDWARD M. COWIE**, *Chief Clerk and Cashier*.  
**R. C. TODD**, *Second Clerk*.  
**WILLIAM HOME COOK, C.A.**, 42 Castle Street, *Auditor*.  
**J. F. TOOHER, D.Sc., F.I.C.**, 41½ Union Street, Aberdeen, *Chemist*.  
**Professor R. STANFIELD, A.R.S.M., M.Inst.C.E., F.R.S.E.**, 24 Mayfield Gardens, Edinburgh, *Consulting Engineer*.  
**A. N. M'ALPINE**, 6 Blythwood Square, Glasgow, *Consulting Botanist*.  
**R. S. MACDOUGALL, M.A., D.Sc.**, 9 Dryden Place, *Consulting Entomologist*.  
**TODD, MURRAY, & JAMIESON, W.S.**, 66 Queen Street, *Law Agents*.  
**WILLIAM BLACKWOOD & SONS**, 45 George Street, *Publishers*.  
**HENRY MUNRO, Ltd.**, 82 Mitchell Street, Glasgow, *Advertising Agents*.  
**HAMILTON & INCHES**, Princes Street, *Silversmiths*.  
**ALEXANDER KIRKWOOD & SON**, 9 St James' Square, *Medallists*.  
**JOHN REID**, Showyard Erector, 55 Blenheim Place, Aberdeen.  
**ANDREW BROWN**, *Messenger*.

### Chairman of Board of Directors.

**SIR HUGH SHAW STEWART, Bart., C.B.**

### Chairmen of Committees.

- |                                      |   |
|--------------------------------------|---|
| 1. <i>Argyll Naval Fund</i>          | Colonel Sir JOHN GILMOUR, Bart., M.P., D.S.O. |
| 2. <i>Finance, Chambers, and Law</i> | Sir DAVID WILSON, Bart., D.Sc., of Carbeth.   |
| 3. <i>Publications</i>               | CHARLES DOUGLAS, D.Sc., C.B., of Auchlochan.  |
| 4. <i>Shows</i>                      | A. B. LEITCH, Inchstelly, Alves, Forres.      |
| 5. <i>Implement and Machinery</i>    | PHIPPS O. TURNBULL, Smeaton.                  |
| 6. <i>Science</i>                    | Sir DAVID WILSON, Bart., D.Sc., of Carbeth.   |
| 7. <i>General Purposes</i>           | Sir HUGH SHAW STEWART, Bart., C.B.            |
| 8. <i>Education</i>                  | CHARLES DOUGLAS, D.Sc., C.B.                  |
| 9. <i>Forestry</i>                   | Sir ARCHIBALD BUCHAN HEPBURN, Bart.           |
| 10. <i>Office-Bearers</i>            | Sir HUGH SHAW STEWART, Bart., C.B.            |
| 11. <i>Law and Parliamentary</i>     | Sir HUGH SHAW STEWART, Bart., C.B.            |

## COMMITTEES FOR 1922-1923.

---

### 1. ARGYLL NAVAL FUND.

Colonel Sir JOHN GILMOUR, Bart., M.P., D.S.O., of Montrave, Leven,  
*Convener.*

CHARLES DOUGLAS, D.Sc., C.B., of Auchlochan, Lesmahagow.

---

Sir ARCHIBALD BUCHAN HEPBURN of Smeaton, Bart., Letham, Haddington.

Sir KENNETH J. MACKENZIE of Gairloch, Bart., Conan House, Conan  
Bridge, Ross-shire.

MAOLACHLAN OF MAOLACHLAN, Castle Lachlan, Strachur.

General ARCHIBALD STIRLING of Keir, Dunblane.

Sir DAVID WILSON, Bart., D.Sc., of Carbeth, Killearn.

Sir HUGH SHAW STEWART, C.B., of Greenock and Blackhall, Bart.,  
Ardgowan, Inverkip, *ex officio*.

### 2. FINANCE, CHAMBERS, AND LAW.

Sir DAVID WILSON, Bart., D.Sc., of Carbeth, Killearn, *Convener.*

ALEXANDER COWAN, Valleyfield, Penicuik.

JAMES I. DAVIDSON, Saughton Mains, Corstorphine.

---

J. ERNEST KERR of Harviestoun Castle, Dollar.

ANDREW B. LEITCH, Inchstelly, Alves, Forres.

JAMES R. LUMSDEN of Arden, Dumbartonshire.

JAMES M'LAREN, Cornton, Stirling.

J. T. M'LAREN, The Leuchold, Dalmeny House.

ROBERT MACMILLAN of Holm of Dalquhairn, Woodlea, Moniaive.

G. BERTRAM SHIELDS, Dolphingstone, Tranent.

PHIPPS O. TURNBULL, Smeaton, Dalkeith.

Sir HUGH SHAW STEWART, C.B., of Greenock and Blackhall, Bart.,  
Ardgowan, Inverkip.

CHARLES DOUGLAS, D.Sc., C.B., of Auchlochan, Lesmahagow, Hon.  
Secretary, *ex officio*.

WILLIAM HOME COOK, C.A., Auditor, *ex officio*.

### 3. PUBLICATIONS.

CHARLES DOUGLAS, D.Sc., C.B., of Auchlochan, Lesmahagow, Hon.  
Secretary, *Convener*.

THOMAS A. BUTTAR, Corston, Coupar-Angus.

Colonel F. J. CARRUTHERS of Dormont, Lockerbie.

ALEXANDER COWAN, Valleyfield, Penicuik.

---

Lieut.-Col. W. T. R. HOULDSWORTH of Kirkbride, Maybole.

JOHN M'CAIG of Belmont, Stranraer.

ROBERT MACMILLAN of Holm of Dalquhairn, Woodlea, Moniaive.

ALEXANDER MURDOCH, East Hallside, Newton, Glasgow.

G. BERTRAM SHIELDS, Dolphingstone, Tranent.

JOHN SPEIR, Newton Farm, Newton.

Sir HUGH SHAW STEWART, C.B., of Greenock and Blackhall, Bart.,  
Ardgowan, Inverkip.

PHIPPS O. TURNBULL, Smeaton, Dalkeith.

FALCONER L. WALLACE of Balcairn, Old Meldrum (Tillypronie, Tarland).

GEORGE WILL, Orichton Royal Institution, Dumfries.

Sir DAVID WILSON, Bart., D.Sc., of Carbeth, Killearn.

## 4. SHOWS.

A. B. LEITCH, Inchstelly, Alves, Forres, *Convener*.  
 THOMAS A. BUTTAR, Corston, Coupar-Angus, *Vice-Convener*.  
 Lieut.-Col. F. J. CARRUTHERS of Dormont, Lockerbie.  
 ALEXANDER COWAN, Valleyfield, Penicuik.  
 J. F. CUMMING, The Dowans, Aberlour.  
 Lieut.-Colonel T. W. CUTHBERT, C.M.G., D.S.O., Auchindunie, Alness.  
 WILLIAM FENWICK, Darnaway Estates Office, Earlsmill, Forres.  
 -----  
 ALEXANDER FORBES, Rettie, Banff.  
 W. P. GILMOUR, Balmangan, Kirkcudbright.  
 JAMES GRIEVE, Rumbletonlaw, Greenlaw.  
 Colonel Sir JOHN A. HOPE of Craighall, Bart., Pinkie House, Musselburgh.  
 Lieut.-Col. W. T. R. HOULDSWORTH of Kirkbride, Maybole.  
 J. ERNEST KERR of Harviestoun Castle, Dollar.  
 THOMAS KIRK of Abbey Mains, Haddington.  
 WILLIAM LOW of Balmakewan, Marykirk, Montrose.  
 JAMES R. LUMSDEN of Arden, Dumbartonshire.  
 JOHN M'CAIG of Belmont, Stranraer.  
 JOHN MACGILLIVRAY of Calrossie, Nigg, Ross-shire.  
 Sir KENNETH J. MACKENZIE of Gairloch, Bart., Conan House, Conon Bridge, Ross-shire.  
 DUNCAN M'LAREN of Fairnington, Roxburgh.  
 JAMES M'LAREN, Cornton, Stirling.  
 J. T. M'LAREN, The Leuchold, Dalmeny House.  
 ROBERT MACMILLAN of Holm of Dalquhairn, Woodlea, Moniaive.  
 JAMES M'QUEEN of Crofts, Dalbeattie.  
 RALPH S. M'WILLIAM, Garguston, Muir of Ord.  
 H. B. MARSHALL of Rachan, Broughton.  
 WILLIAM MEIKLEM, Begg, Kirkcaldy.  
 WALTER MUNDELL, Dalchork, Delny House, Delny.  
 ALEXANDER MUNRO of Leanach, Culloden Moor, Inverness.  
 ALEXANDER MURDOCH, East Hallside, Newton, Glasgow.  
 WILLIAM POOLE, J.P., Englewood, Blackhall.  
 DAVID PETRIE, Provost of Inverness.  
 Colonel J. L. REID of Cromley Bank, Ellon.  
 ALEXANDER ROBERTSON, Estate Office, Polmaise, Stirling.  
 JOHN ROBSON, jun., of Lynegar, Watten, Caithness.  
 JAMES RODGER, Rochdale Lodge, Abercromby Drive, Bridge of Allan.  
 JAMES SCOTT, Fearn, Ross-shire.  
 G. BERTRAM SHIELDS, Dolphingstone, Tranent.  
 JOHN P. SLEIGH, St John's Wells, Fyvie.  
 R. A. SMITH, West Lovat, Beauly.  
 JOHN SPEIR, Newton Farm, Newton.  
 Major MARK SPROT of Riddell, Lilliesleaf.  
 Sir HUGH SHAW STEWART, C.B., of Greenock and Blackhall, Bart., Ardgowan, Inverkip.  
 JOHN STEWART of Struthers, Cupar-Fife.  
 MOFFAT S. THOMSON of Lambden, Spots mains, Kelso.  
 CHARLES F. TULLOCH, Braevail, Lethen, Nairn.  
 PHIPPS O. TURNBULL, Smeaton, Dalkeith.  
 FALCONER L. WALLACE of Balcairn, Old Meldrum (Tillypronie, Tarland).  
 GEORGE WILL, Crichton Royal Institution, Dumfries.  
 Sir DAVID WILSON, Bart., D.Sc., of Carbeth, Killearn, Treasurer, *ex officio*.  
 CHARLES DOUGLAS, D.Sc., C.B., of Auchlochan, Lesmahagow, Hon. Secretary, *ex officio*.  
 Professor R. STANFIELD, 24 Mayfield Gardens, Edinburgh, Engineer, *ex officio*.

**5. IMPLEMENTS AND MACHINERY.**

PHIPPS O. TURNBULL, Smeaton, Dalkeith, *Convener*.

Colonel F. J. CARRUTHERS of Dormont, Lockerbie.

.....  
ALEXANDER FORBES, Rettie, Banff.

W. P. GILMOUR, Balmangan, Kirkcudbright.

THOMAS KIRK of Abbey Mains, Haddington.

ANDREW B. LEITCH, Inchstelly, Alves.

WILLIAM LOW of Balmakewan, Marykirk, Montrose.

JAMES R. LUMSDEN of Arden, Dumbartonshire.

Sir KENNETH J. MACKENZIE of Gairloch, Bart., Conan House, Conan Bridge, Ross-shire.

JAMES M'LAREN, Cornton, Stirling.

J. T. M'LAREN, The Leuchold, Dalmeny House.

WILLIAM POOLE, J. P., Euglewood, Blackhall.

Colonel J. L. REID of Cromley Bank, Ellon.

JAMES RODGER, Rochdale Lodge, Abercromby Drive, Bridge of Allan.

JAMES SCOTT, Fearn, Ross-shire.

G. BERTRAM SHIELDS, Dolphingstone, Tranent.

JOHN P. SLEIGH, St John's Wells, Fyvie.

R. A. SMITH, West Lovat, Beaulieu.

JOHN SPEIR, Newton Farm, Newton.

Major MARK SPROT of Riddell, Lilliesleaf.

JOHN STEWART of Struthers, Cupar-Fife.

MOFFAT S. THOMSON of Lambden, Spotsmains, Kelso.

GEORGE WILL, Crichton Royal Institution, Dumfries.

Sir DAVID WILSON, Bart., D.Sc., of Carbeth, Killearn, *ex officio*.

CHARLES DOUGLAS, D.Sc., C.B., of Auchlochan, Lesmahagow, *ex officio*.

Professor STANFIELD, 24 Mayfield Gardens, *ex officio*.

Sir HUGH SHAW STEWART, C.B., of Greenock and Blackhall, Bart., Ardgowan, Inverkip, *ex officio*.

**6. SCIENCE.**

Sir DAVID WILSON, Bart., D.Sc., of Carbeth, Killearn, *Convener*.

CHARLES DOUGLAS, D.Sc., C.B., of Auchlochan, Lesmahagow, Hon. Secretary, *Vice-Convener*.

T. A. BUTTAR, Corston, Coupar-Angus.

ALEXANDER COWAN, Valleyfield, Penicuik.

.....  
W. P. GILMOUR, Balmangan, Kirkcudbright.

JAMES GRIEVE, Rumbletonlaw, Greenlaw.

Colonel Sir JOHN A. HOPE of Craighall, Bart., Pinkie House, Musselburgh.

Lieut.-Col. W. T. R. HOULDSWORTH of Kirkbride, Maybole.

J. ERNEST KERR of Harviestoun Castle, Dollar.

THOMAS KIRK of Abbey Mains, Haddington.

ANDREW B. LEITCH, Inchstelly, Alves.

JOHN M'CAIG of Belmont, Stranraer.

JOHN M'GILLIVRAY of Calrossie, Nigg, Ross-shire.

Sir KENNETH J. MACKENZIE of Gairloch, Bart., Conan House, Conan Bridge, Ross-shire.

DUNCAN M'LAREN of Fairnington, Roxburgh.

JAMES M'LAREN, Cornton, Stirling.

ROBERT MACMILLAN of Holm of Dalquhairn, Woodlea, Moniaive.

JAMES M'QUEEN of Crofts, Dalbeattie.

H. B. MARSHALL of Rachan, Broughton.

ALEXANDER MURDOCH, East Hallside, Newton, Glasgow.

ALEXANDER ROBERTSON, Estates Office, Polmaise, Stirling.  
 General Sir W. C. ROSS, K.B.E., C.B., of Cromarty, Cromarty.  
 G. BERTRAM SHIELDS, Dolphingstone, Tranent.  
 JOHN SPIER, Newton Farm, Newton.  
 Major MARK SPROT of Riddell, Lilliesleaf.  
 Sir HUGH SHAW STEWART, C.B., of Greenock and Blackhall, Bart.,  
 Ardgowan, Inverkip.  
 MOFFAT S. THOMSON of Lambden, Spotmains, Kelso.  
 PHIPPS O. TURNBULL, Smeaton, Dalkeith.  
 Dr J. F. TOCHER, Chemist, *ex officio*.  
 A. N. M'ALPINE, Botanist, *ex officio*.  
 R. S. MACDOUGALL, D.Sc., Zoologist, *ex officio*.

## 7. GENERAL PURPOSES.

Sir HUGH SHAW STEWART, C.B., of Greenock and Blackhall, Bart.,  
 Ardgowan, Inverkip, *Convener*.  
 ALEXANDER COWAN, Valleyfield, Penicuik.  
 Colonel Sir JOHN A. HOPE of Craighall, Bart., Pinkie House, Mussel-  
 burgh.  
 .....  
 THOMAS KIRK of Abbey Mains, Haddington.  
 JAMES M'LAREN, Cornton, Stirling.  
 J. T. M'LAREN, The Leuchold, Dalmeny House.  
 ROBERT MACMILLAN of Holm of Dalquhairn, Woodlea, Moniaive.  
 JAMES M'QUEEN of Crofts, Dalbeattie.  
 WILLIAM MEIKLEM, Begg, Kirkcaldy.  
 ALEXANDER MURDOCH, East Hallside, Newton, Glasgow.  
 WILLIAM POOLE, J.P., Englewood, Blackhall.  
 G. BERTRAM SHIELDS, Dolphingstone, Tranent.  
 PHIPPS O. TURNBULL, Smeaton, Dalkeith.  
 Sir DAVID WILSON, Bart., D.Sc., of Carbeth, Killearn, Treasurer, *ex officio*.  
 CHARLES DOUGLAS, D.Sc., C.B., of Auchlochan, Lesmahagow, Hon.  
 Secretary, *ex officio*.

## 8. EDUCATION.

CHARLES DOUGLAS, D.Sc., C.B., of Auchlochan, Lesmahagow, *Convener*.  
 Colonel F. J. CARRUTHERS of Dormont, Lockerbie.  
 .....  
 Sir HUGH SHAW STEWART, C.B., of Greenock and Blackhall, Bart.,  
 Ardgowan, Inverkip.  
 Sir DAVID WILSON, Bart., D.Sc., of Carbeth, Killearn.  
 JOHN STIRTON, *Secretary*, Highland and Agricultural Society.

## 9. FORESTRY.

Sir ARCHIBALD BUCHAN HEPBURN of Smeaton, Bart., Letham, Haddington,  
*Convener*.  
 A. H. ANDERSON, Kippendavie, Dunblane.  
 The DUKE of ATHOLL, K.T., C.B., M.V.O., D.S.O., Blair Castle, Blair  
 Atholl.  
 Lieut.-Col. F. J. CARRUTHERS of Dormont, Lockerbie.  
 JAMES I. DAVIDSON, Saughton Mains, Corstorphine.  
 CHARLES DOUGLAS, D.Sc., C.B., of Auchlochan, Lesmahagow.  
 Sir HENRY DUNDAS, Bart., M.V.O., Polton House, Lasswade.  
 Sir JOHN R. FINDLAY of Aberlour, 27 Drumsheugh Gardens, Edinburgh.  
 LORD FORTEVIOT, Duppplin Castle, Perth.

Colonel Sir JOHN GILMOUR, Bart., M.P., D.S.O., of Montrave, Leven.  
 EARL OF HOME, Springhill, Coldstream.  
 J. H. MILNE HOME, Irvine House, Canonbie.  
 DAVID KEIR, Ladywell, Dunkeld.  
 LORD LOVAT, C.B., D.S.O., &c., Beaufort Castle, Beaulieu.  
 A. D. MACDONALD, Yester Estates Office, Gifford.  
 Sir KENNETH J. MACKENZIE of Gairloch, Bart., Conan House, Conan Bridge, Ross-shire.  
 MAOLACHLAN OF MAOLACHLAN, Castle Lachlan, Strachur.  
 J. G. M'MYN, Kirkhouse, Kirkbean, Dumfries.  
 H. B. MARSHALL of Rachan, Broughton.  
 Right Hon. Sir HERBERT E. MAXWELL of Monreith, Bart., Whaughill.  
 JOHN MICHIE, M.V.O., Kincaim, Blair, Aberdeen.  
 LORD POLWARTH, Humble House, Upper Keith.  
 Major MARK SPOT of Riddell, Lilliesleaf.  
 Sir HUGH SHAW STEWART, C.B., of Greenock and Blackhall, Bart., Ardgowan, Inverkip.  
 Colonel ARCHIBALD STIRLING of Keir, Dunblane.  
 Sir JOHN STIRLING MAXWELL of Pollok, Bart., Pollokshaws.  
 Sir DAVID WILSON, Bart., D.Sc., of Carbeth, Killearn.

### 10. OFFICE-BEARERS.

*Constitution* : (1) The four Ordinary Directors for the district in which the Show for the year is to be held (with the exception of one retiring next year); (2) one Ordinary Director from each of the other Show districts; and (3) the Chairman of the Board, Hon. Secretary, and Treasurer, *ex officio*.

<i>Perth</i>	{ THOMAS A. BUTTAR, Corston, Coupar-Angus. The DUKE OF ATHOLL, K.T., C.B., M.V.O., D.S.O., Blair Castle, Blair Atholl. JOHN STEWART of Struthers, Cupar-Fife.
<i>Glasgow</i>	
<i>Borders</i>	Lieut.-Col. W. T. R. HOULDSWORTH of Kirkbride, Maybole.
<i>Edinburgh</i>	JAMES GRIEVE, Rumbletonlaw, Greenlaw.
<i>Aberdeen</i>	J. T. M'LAREN, The Leuchold, Dalmeny House.
<i>Stirling</i>	J. P. SLEIGH, St John's Wells, Fyvie.
<i>Dumfries</i>	JAMES R. LUMSDEN of Arden, Dumbartonshire.
<i>Inverness</i>	JAMES M'QUEEN of Crofts, Dalbeattie.
	ANDREW B. LEITCH, Inchstelly, Alves, Forres.

Sir HUGH SHAW STEWART, C.B., of Greenock and Blackhall, Bart., Ardgowan, Inverkip, Chairman, *ex officio*.

CHARLES DOUGLAS, D.Sc., C.B., of Auchlochan, Hon. Secretary, *ex officio*.

Sir DAVID WILSON, Bart., D.Sc., of Carbeth, Killearn, Treasurer, *ex officio*.

### 11. LAW AND PARLIAMENTARY.

<i>Glasgow</i>	JOHN SPEIR, Newton Farm, Newton.
<i>Perth</i>	T. A. BUTTAR, Corston, Coupar-Angus.
<i>Stirling</i>	ALEXANDER ROBERTSON, Estate Office, Polmaise, Stirling.
<i>Edinburgh</i>	THOMAS KIRK of Abbey Mains, Haddington.
<i>Aberdeen</i>	JOHN P. SLEIGH, St John's Wells, Fyvie.
<i>Dumfries</i>	JOHN M'CAIG of Belmont, Stranraer.
<i>Inverness</i>	R. A. SMITH, Wester Lovat, Beaulieu.
<i>Border</i>	DUNCAN M'LAREN of Fairnington, Roxburgh.

.....  
 G. BERTRAM SHIELDS, Dolphingstone, Tranent.

Sir HUGH SHAW STEWART, C.B., of Greenock and Blackhall, Bart., Ardgowan, Inverkip, Chairman, *ex officio* (Convener).

Sir DAVID WILSON, Bart., D.Sc., of Carbeth, Killearn, Treasurer, *ex officio*.

CHARLES DOUGLAS, D.Sc., C.B., of Auchlochan, Leamahagow, Hon. Secretary, *Vice-Convener, ex officio*.



**REPRESENTATIVES ON OTHER BODIES.****National Agricultural Examination Board.**

Colonel F. J. CARRUTHERS of Dermont, Lockerbie.

CHARLES DOUGLAS, D.Sc., C.B., of Auchlochan, Lesmahagow.

Sir HUGH SHAW STEWART, C.B., of Greenock and Blackhall, Bart.,  
Ardgowan, Inverkip.

Sir DAVID WILSON, Bart., D.Sc., of Carbeth, Killearn.

JOHN STIRTON, *Secretary*, Highland and Agricultural Society.

**Edinburgh and East of Scotland College of Agriculture.**

JOHN STIRTON, *Secretary*, Highland and Agricultural Society.

**West of Scotland Agricultural College.**

Sir HUGH SHAW STEWART, C.B., of Greenock and Blackhall, Bart.,  
Ardgowan, Inverkip.

**Aberdeen and North of Scotland College of Agriculture.**

Dr J. F. TOOHER, 41½ Union Street, Aberdeen.

**Royal (Dick) Veterinary College.**

THOMAS KIRK of Abbey Mains, Haddington.

**Glasgow Veterinary College.**

JAMES R. LUMSDEN of Arden, Dumbartonshire.

**Scottish Milk Records Association.**

CHARLES DOUGLAS, D.Sc., C.B., of Auchlochan, Lesmahagow.

JOHN M'CAIG of Belmont, Strauraer.

Sir HUGH SHAW STEWART, C.B., of Greenock and Blackhall, Bart.,  
Ardgowan, Inverkip.

**MEETINGS.**

**General Meetings.**—By the Charter the Society must hold two General Meetings each year, and, under ordinary circumstances, they are held in the months of January and June, in the Society's Hall, 3 George IV. Bridge, for the election of Members and other business. Twenty a quorum.

By a resolution of the General Meeting on 15th January 1879, a General Meeting of Members is held in the Showyard on the occasion of the Annual Show. This year it will be held at Inverness, on Wednesday, 18th July, at an hour to be announced in the programme of the Show.

With reference to motions at General Meetings, Bye-Law No. 10 provides—"That at General Meetings of the Society no motion or proposal (except of mere form or courtesy) shall be submitted or entertained for immediate decision unless notice thereof has been given a week previously to the Board of Directors, without prejudice, however, to the competency of making such motion or proposal to the effect of its being remitted to the Directors for consideration, and thereafter being disposed of at a future General Meeting."

**General Show at Inverness**—17th, 18th, 19th, and 20th July.—Entries close for Implements, 7th May; Stock, Poultry, Dairy Produce, &c., 31st May.

**Directors' Meetings.**—The Board of Directors meet (except when otherwise arranged) on the first Wednesday of each month from November till June inclusive, at half-past one o'clock P.M., and occasionally as business may require, on a requisition by three Directors to the Secretary, or on intimation by him. Seven a quorum.

**Committee Meetings.**—Meetings of the various Committees are held as required.

**Nomination of Directors.**—Meetings of Members, for the purpose of nominating Directors to represent the Show Divisions on the Board for the year 1923-1924, will be held at the places and on the days after mentioned :—

1. Edinburgh, Market Buildings, Gorgie, Wed., 30th Jan. 1924, at 1.
2. Glasgow, North British Railway Hotel, Wed., 13th Feb. 1924, at 1.
3. Stirling, Golden Lion Hotel, . . . Thur., 14th Feb. 1924, at 1.30.
4. Perth, Salutation Hotel, . . . Fri., 15th Feb. 1924, at 2.
- (*In 1925 the Meeting will be held at Perth, in 1926 and 1927 at Cupar.*)
5. Border, Railway Hotel, St Boswells, . . . Thur., 21st Feb. 1924, at 1.
6. Aberdeen, Imperial Hotel, . . . Fri., 29th Feb. 1924, at 2.30.
7. Inverness, Station Hotel, . . . Tues., 4th Mar. 1924, at 12.30
8. Dumfries, King's Arms Hotel, . . . Wed., 12th Mar. 1924, at 1.

The nomination of Proprietor or other Member paying the higher subscription must be made in the 4th, 6th, 7th, and 8th Divisions; and the nomination of Tenant-Farmer or other Member paying the lower subscription, in the 1st, 2nd, 3rd, and 5th Divisions.

Retiring Directors are not eligible for re-election until after the lapse of at least one year.

## EXAMINATIONS.

**Agriculture.**—The Examination for 1923 for the National Diploma in Agriculture will be held at the University, Leeds, on Wednesday, 4th April 1923, and following days. Entries close on 24th February.

**Dairy.**—The Examination for 1923 for the National Diploma in Dairying will be held at the Dairy School, Kilmarnock, on Friday, 21st September, and following days. Entries close on 11th August.

**Forestry.**—The Examination for the Society's Certificates in Forestry will be held at 3 George IV. Bridge, Edinburgh, in the month of March 1924.

## AGRICULTURAL EDUCATION

By a Supplementary Charter under the Great Seal, granted in 1856, the Society is empowered to grant Diplomas.

From 1858 to 1899 the Society held an annual Examination for Certificate and Diploma in Agriculture. In 1872 the Free Life Membership of the Society was granted to winners of the Diploma. In 1884 permission was given to holders of the Diploma to append the letters F.H.A.S. to their names.

In 1898 it was resolved by the Royal Agricultural Society of England and the Highland and Agricultural Society of Scotland to discontinue the independent Examinations in Agriculture held by the two Societies, and to institute in their stead a Joint Examination for a NATIONAL DIPLOMA IN AGRICULTURE (N.D.A.) This Examination is now conducted under the management of the "National Agricultural Examination Board" appointed by the two Societies. In the year 1903, on the invitation of the two Societies, the Ministry of Agriculture and Fisheries and the Scottish Education Department agreed to appoint a representative from each to act on the Examination Board. Sir Daniel Hall, K.C.B., represents the former, and Sir John Struthers, K.C.B., the latter body.

### REGULATIONS FOR EXAMINATION IN THE SCIENCE AND PRACTICE OF AGRICULTURE

1. The Societies may hold conjointly, under the management of the National Agricultural Examination Board appointed by them, an Annual Examination in the Science and Practice of Agriculture, at a convenient centre.

2. Candidates who pass the Examination will receive the National Diploma in Agriculture—the Diploma to be distinguished shortly by the letters "N.D.A."

3. The Examination will be conducted by means of written papers and oral Examinations.

4. In order to be eligible to sit for the Board's Examination in Agriculture, a Candidate must—

(a) Present a certificate from a recognised Agricultural College that his attainments in the subjects of *General Botany, Geology, General Chemistry, Physics and Mechanics*, as attested by class and other examinations, are, in the opinion of the authorities of the College, such as to justify his admission to the Board's Examination; or

(b) Produce evidence that he has passed the 1st B.Sc. or the Intermediate Examination in Science of a British University; or

(c) Present a Senior Certificate obtained at the Local Examinations of the Universities of Oxford or Cambridge, and produce evidence that he has continued his study of science for at least a year, and has obtained a certificate in subject 3 (a) Elementary Chemistry and Physics, (b) Botany of Group H of the Oxford Higher Local Examination, or in Subjects 1, Elementary Chemistry and Physics, and 4, Botany of Group E of the Cambridge Higher Local Examination; or

(d) Present an Intermediate Leaving Certificate of the Scottish Education Department, and produce evidence that he has continued his studies for at least another year and has obtained the Higher Leaving Certificate in Science (including Chemistry and Botany).

5. In the case of students who satisfy the Board that they have not had the facilities for obtaining the foregoing certificates, the Board will be prepared to consider evidence of equivalent attainment.

6. *Before sitting for the PRACTICAL AGRICULTURE papers, all candidates must produce evidence of possessing a practical knowledge of Agriculture obtained by residence on a farm for a period or periods covering a complete year of farming operations.*

7. Candidates will have the option of taking the whole of the following nine papers at one time, or of sitting for a group of any three, four, or five in one year and the remaining subjects in the next year.

SUBJECT.	Maximum Marks.	Pass Marks.
1. Practical Agriculture (First Paper) . . .	300	180
2. Practical Agriculture (Second Paper) . . .	300	180
3. Farm Machinery and Implements . . .	200	100
4. Land Surveying and Farm Buildings . . .	100	50
5. Agricultural Chemistry . . .	300	150
6. Agricultural Botany . . .	300	150
7. Agricultural Book-keeping . . .	200	100
8. Agricultural Zoology . . .	200	100
9. Veterinary Science . . .	200	100
	<hr/> 2100	<hr/> 1110

NOTE.—Candidates taking the Examination in two Groups of subjects are recommended to take Agricultural Chemistry and Agricultural Botany in the first year.

8. A Candidate who obtains not less than three-fourths (1575) of the aggregate maximum marks (2100) in the entire Examination will receive the Diploma with Honours, provided that he obtains not less than three-fourths (450) of the maximum marks (600) in the two Practical Agriculture papers.

9. Candidates electing to take the entire Examination at one time and failing in not more than three subjects may appear for these subjects in the following year. Failure in more than three subjects will be regarded as failure in the whole Examination.

10. In the case of candidates electing to take the Examination papers in two groups—

(a) A candidate appearing for a group of *three* subjects and failing in a single subject may appear for that subject in the following year. Failure in more than one subject will be regarded as failure in the group.

(b) A candidate appearing for a group of four, five, or six subjects, and failing in not more than two subjects, may appear for those subjects in the following year. Failure in more than two subjects will be regarded as failure in the group.

11. Non-returnable fees must be paid by Candidates as follows :—

Entire Examination . . . . .	Six guineas.
Group of Subjects . . . . .	Three guineas.
Reappearance for any Subjects . . . . .	10/6 per Subject.

12. The Board reserve the right to postpone, abandon, or in any way, or at any time, modify an Examination, and also to decline at any stage to admit any particular Candidate to the Examination.

The Examination will take place at the Leeds University on WEDNESDAY, APRIL 4th, 1923, and following days.

Forms of application for permission to sit at the Examination may be obtained from "The Secretary, Royal Agricultural Society of England, 16 Bedford Square, London, W.C. 1," or from "The Secretary, Highland and Agricultural Society of Scotland, 3 George IV. Bridge, Edinburgh," and must be returned duly filled up not later than SATURDAY, FEBRUARY 24th, 1923, when the Entries will close.

16 BEDFORD SQUARE, LONDON, W.C. 1,  
December 1922.

## SYLLABUS OF SUBJECTS OF EXAMINATION

## PRACTICAL AGRICULTURE.

## I.—FIRST PAPER.

1. *British Farming*.—Arable, stock-raising, dairying—Approximate areas covered by the different systems—Typical examples of each—Area in Great Britain under chief crops—Numbers of live stock—The recent history of agriculture—Short summary of agricultural returns.

2. *Climate*.—The effect of climate on farming practice—Rainfall—Temperature—Prevailing winds—Weather forecasts.

3. *Soils*.—The influence of geological formations on the systems of farming—Classification of soils—Character and composition—Suitability for cultivation—Reclamation—Drainage—Irrigation—Warping—Application of lime and marl—Bare fallows—Tillage—Subsoiling—Deep and thorough cultivation.

4. *Manures*.—The manures of the farm—The treatment of farmyard manure—The disposal of liquid manure and sewage—General manures—Special manures—Field trials of manures—The application of manures—Period of application and amounts used per acre—Unexhausted value of manures and feeding-stuffs.

5. *Crops*.—Wheat, barley, oats, rye, beans, peas, potatoes, turnips, swedes, mangolds, forage plants, hops, and other crops—Their adaptation to different soils and climates—Varieties—Selection of seed—Judging seeds—Cultivation, weeds and parasitic plants, best methods of prevention and eradication—Harvesting—Storing—Cost of production—Improvement of crops by selection and hybridising—Field trials—Methods which the farmer may adopt—Selection to resist disease—The principles of rotations—Rotations suitable for different soils and climates—Rotations and the maintenance of fertility—Green manuring—Leguminous crops in rotation—Catch crops—The advantages and disadvantages of rotations—Specialised farming—Management of Orchards.

## II.—SECOND PAPER.

6. *Live Stock*.—The different breeds of British live stock—Their origin, characteristics, and comparative merits—Suitability for different districts—Breeding—General principles—Selection—Mating—Crossing—Rearing and general management—Breeding and rearing of horses, cattle, sheep, pigs and poultry—Rearing colts and raising store stock—The foods of the farm—Their composition and suitability for different classes of stock—Purchased foods—Composition and special value—Rations for different kinds and ages of stock—Cost of producing beef, mutton, pork, and milk—Cost of feeding farm horses.

7. *The disposal of Crop, Produce, and Stock*.—Marketing grain and other crops—Sale of stock—Live weight—Dead weight.

8. *Milk*.—The production and treatment of milk—The manufacture of cheese, butter, &c.—The utilisation of by-products.

9. *Farming Capital*.—Calculations of the stocking and working of arable, stock, and dairy farms—Farm valuations—Rent and taxes.

10. *Labour*.—Organisation of labour—piece-work, time-work—labour costings.

11. *Renting a Farm*.—Indications of condition, productive power, and stock-carrying capacity—Leases—Conditions of occupancy.

N.B.—It is essential that a Candidate know his subject practically, and that he satisfy the Examiner of his familiarity with farm work and management.

### III.—FARM MACHINERY AND IMPLEMENTS.

1. *Power.*—The principle of action, construction, and method of working, also care and management of steam engines and boilers, gas, oil and petrol engines and agricultural tractors—Cost and working expenses in connection with the above—Estimation of the brake horse-power of engines—Power derived from water—Measurement of the quantity of water flowing in a stream—General arrangement of water-power plants—Water-wheels—Turbines—Pumps, principle of action and construction—Flow of water through pipes—Hydraulic ram—Windmills.

2. *Agricultural Implements and Machinery.*—The mode of action and the general principles involved in the construction and working of farm implements and machinery—Arrangement of machinery with respect to the power plant—Pulleys and belting—Shafting and bearings—Lubrication—Lifting appliances—Strength and care of chains—Concrete and its use in the construction of simple foundations for engines and machines.

3. *Implements of Cultivation.*—Ploughs—Cultivators—Grubbers—Harrows—Drills—Manure Distributors—Seeding and planting implements.

4. *Implements of Harvesting.*—Mowing and Reaping machines—Rakes—Teddars—Elevators—Potato raisers.

5. *Implements of Transit.*—Carts, waggons, rick lifters, tractors.

6. *Threshing and Food-preparing Machinery.*—Threshing machines, stationary and portable, Screen Winnowers—Hummelers, Chaff cutters—Pulpers—Cake breakers.

7. *Dairy Appliances.*—Milking machines—Cream separators—Churns and other butter-working appliances—Milk delivery cans—Cheese-making utensils—Vats and presses.

N.B.—*Candidates are expected to have had some experience with agricultural machinery and implements under actual working conditions, and to be capable of illustrating their answers, when necessary, by intelligible sketches or diagrams.*

### IV.—LAND SURVEYING AND FARM BUILDINGS.

1. The use and adjustment of instruments employed in Surveying and Levelling other than the Theodolite.

2. Land surveying by chain—Plotting from field book, and determination of areas surveyed—The simpler "field problems."

3. Levelling and plotting from field book.

4. A knowledge of the various classes of maps published by the Ordnance Survey Department and their Scales.

5. *Roads and Fences.*—The construction and maintenance of farm roads, fences, and ditches.

6. *Land Drainage.*—Methods of draining; mole and pipe drains; cost of construction and maintenance.

7. *Buildings.*—Buildings required on different classes of farms—Economic arrangement of farm buildings—Materials—Construction—Ventilation—Drainage—Water supply—Dimensions of dairy, stables, cow-sheds, yard, courts, and piggeries—Accommodation for power—Implement, machinery, and cart sheds—Hay and grain sheds—Shelter sheds—Storage of manure.

N.B.—*Each Candidate should have with him at the Examination a pair of compasses, scales of equal parts, including scales of one chain to the inch, 4 feet to the inch, 8 feet to the inch, and the scale fitting the Ordnance map, 1100 or 25344 inches to the mile, a small protractor, a set square, and a straight-edge about 18 inches in length.*

## V.—AGRICULTURAL CHEMISTRY.

1. *The Atmosphere*.—Its composition and relations to plant and animal life.  
 2. *Water*.—Rain water—Soil water and drainage—Drinking water—Sewage and irrigation.

3. *The Soil*.—Origin, formation, and classification of soils—Sampling—Analysis—Composition of soils—The chemical and physical properties of soils—The water and air of the soil—Biological changes in the soil—The soil in relation to plant growth—Fertility—Causes of infertility—Improvement of soils.

4. *Manures*.—Theories of manuring—Classification of manures—Origin, nature, and characteristics of manures—Manufacture of manures—Composition, analysis, adulteration, and valuation of manures—Farmyard manure and other natural manures—Green-manuring—Liming, marling, claying—Artificial manures, their origin and manufacture—Fertilisers and Feeding Stuffs Act—Sampling of manures.

5. *Poisons, Antiseptics, and Preservatives*.—General chemical composition and character of insecticides, fungicides, antiseptics, and preservatives used on the farm.

6. *Plants and Crops*.—Constituents of plants—Assimilation and nutrition of plants—Sources of the nitrogen and other constituents of plants—Germination—Action of enzymes—Composition and manurial requirements of farm crops—Food products derived from crops—Manuring experiments.

7. *Animals*.—Composition of animal body—Animal nutrition—Digestion—Assimilation, metabolism, respiration, and excretion.

8. *Foods and Feeding*.—Constituents of foods—Origin, nature, and composition of chief feeding-stuffs—Sampling, analysis, and adulteration of foods—Nutritive value and digestibility of food—Functions of chief food constituents—Energy values—Vitamines—Relation of foods to the production of work, meat, milk, and manure—Manurial residues of foods.

9. *Dairy Chemistry*.—The composition of milk, cream, butter, cheese, &c.—Conditions which influence the composition of milk and milk products—Action of ferments and enzymes on milk and milk products—Milk-testing—Analysis and adulteration of dairy products.

N.B.—*Candidates are required to bring their Laboratory Notes to the Oral Examination in this subject.*

## VI.—AGRICULTURAL BOTANY.

In addition to a *general knowledge* of the morphology, histology, and physiology of plants, candidates will be expected to possess a *detailed knowledge* of the following subjects:—

British grasses of agricultural importance: recognition of, at any stage of growth. Habitats of important species. Constitution of the grass flora of good meadows and pastures. Composition of seed mixtures for temporary and permanent leys on various soils. The effects of artificial manures on the flora of grass land.

The weeds of arable and grass land. Poisonous and parasitic weeds. Methods of distribution by seed and vegetatively: of eradication. Weeds as soil indicators. Recognition of the seeds of the common weeds, particularly those characteristically found in clover, grass, &c., seed.

The chief varieties of wheat, barley, oats, clovers, roots, and other farm crops: their suitability for various climatic and soil conditions. The identification of the more important types of cereals by means of their grain characters. Characteristics of good and bad samples of cereals.

Identification of materials used in feeding cakes and meals.

Plant-breeding. Principles of heredity in plants. Pure lines. Fluctuating variability. Selection.

Disease in plants. Diseases due to the attacks of parasitic fungi. Resistance to disease : conditions affecting. Fungoid diseases scheduled from time to time by the Ministry of Agriculture and Fisheries.

Yeasts and fermentation.

The general outlines of bacteriology : nitrogen fixation, nitrification, and denitrification. Putrefaction and the bacteriology of milk, butter, and cheese.

## VII.—AGRICULTURAL BOOK-KEEPING.

Principles of book-keeping ; single and double entry ; opening books, description of subsidiary books, with examples of entries therein ; the ledger ; posting ; preparation of trial balance ; valuation of stocks and effects ; closing and proving the books, preparation of profit and loss account and balance-sheet ; ruling off accounts.

Application of special methods to farms of varying requirements.

## VIII.—AGRICULTURAL ZOOLOGY.

1. The part played by common animals in helping or hindering agricultural operations, as illustrated by moles and voles, insectivorous and other birds, snails and slugs, useful and injurious insects, arachnids and myriapods, earthworms, &c.

2. *General Structure of Insects*, especially the external characters.

3. *Life-history of Insects*.—Economic importance of different stages. A knowledge of the life-history of the principal insect pests as affording a basis for appropriate treatment.

4. *Acarina* injurious to Food Crops and Live Stock.

5. *Parasitic Worms*.—Flukes, Tapeworms, and Threadworms.

6. *Preventives and Remedial Measures* in regard to insects, acarines, and worm Parasites—*e.g.*, farm practice in relation to the discouragement of Insect attack. Encouragement of insect-eating birds and mammals. Artificial remedies. Insecticides. Treatment for Parasites.

N.B.—*Practical acquaintance with common animals, especially insects and worm parasites, will be expected. Where the Candidate is not acquainted with the scientific name of an animal, the generally received English name will be accepted.*

*Candidates are required to bring their Laboratory Notes to the Oral Examination in this subject.*

## IX.—VETERINARY SCIENCE.

1. Elementary Anatomy and Physiology of the horse, ox, sheep, and pig.

2. The general principles of breeding—including the physiology of reproduction, the laws of heredity, the periods of gestation, and the signs of pregnancy in the mare, cow, ewe, and sow.

3. Dentition as a means of determining the age of horses, cattle, sheep and swine.

4. The management of farm stock in health and disease.



The following won the Diploma in 1922 :—

*Diploma, with Honours.*

ROBERT LAIRD, Glasgow University and West of Scotland Agricultural College.

*Diploma.*

JOSEPH LORRAINE ALLAN, West of Scotland Agricultural College, Glasgow.

CARROLL KING BAKER, "Gaspereau," Acton, W. 3.

VERNON LESLIE BARROW, Harris Institute, Preston.

CHARLES HENRY BLAGBURN, University College, Reading.

GEORGE VINCENT BROWN, Harris Institute, Preston.

ROBERT BRYAN, West of Scotland Agricultural College, Glasgow.

EDWARD CAPSTICK, Armstrong College, Newcastle-on-Tyne.

COWPER HENDERSON CHALMERS, Harris Institute, Preston.

PERRONELLE MARY CHEVALLIER, University College, Reading.

THOMAS MURRAY CLEMENT, West of Scotland Agricultural College, Glasgow.

JAMES FARQUHAR CURRIE, West of Scotland Agricultural College, Glasgow.

FRANK DARLING, Midland Agricultural College, Sutton Bonington.

TRAYKO DAYITCH, University College, Reading, and Harper Adams College.

WILLIAM HENRY DIXON, Leeds University.

LESLIE ROY DOUGHTY, Midland Agricultural College, Sutton Bonington.

HERBERT CHARLES DUCKER, S.E. Agricultural College, Wye, Kent.

CHARLES KENNETH FLINTOFF, Midland Agricultural College, Sutton Bonington.

ALAN V. B. FOSTER, Midland Agricultural College, Sutton Bonington.

THOMAS A. FOWLER, West of Scotland Agricultural College, Glasgow.

BRIAN JOHN FRICKER, University College, Reading.

WILLIAM DONALD GENTLEMAN, West of Scotland Agricultural College, Glasgow.

JAMES GIBSON, Midland Agricultural College, Sutton Bonington.

SAMUEL MOORE GILBERT, S.E. Agricultural College, Wye.

EDGAR PHILIP GODDARD, S.E. Agricultural College, Wye.

MARJORIE ELISABETH GODFREY, Harper-Adams Agricultural College, Newport, Salop.

ROBERT GRAHAM, Leeds University.

C. L. INGHAM HADEN, Harper-Adams Agricultural College, Newport, Salop.

PENDENNIS JOHN HAYES, S.E. Agricultural College, Wye.

JOHN W. T. HOLLOWAY, West of Scotland Agricultural College, Glasgow.

LEONARD E. HUMPHREYS, Harris Institute, Preston.

CYRIL WILLIAM HUTCHINSON, Leeds University.

JOHN JACKSON, West of Scotland Agricultural College, Glasgow.

WILLIAM ALBERT JACQUES, Harris Institute, Preston.

JOHN WILLIAMS JONES, University College, Aberystwyth.

WILLIAM R. KINSEY, Harper-Adams Agricultural College, Newport, Salop.

SYDNEY R. KIRK, West of Scotland Agricultural College, Glasgow.

ALEXANDER RITCHIE LAMB, Midland Agricultural College, Sutton Bonington.

EDWARD LAWRENCE, S.E. Agricultural College, Wye, Kent.

- STUART LESLIE LAWTON, Midland Agricultural College, Sutton Bonington.
- REGINALD LLOYD LEWIS, Leeds University.
- JOAN K. B. LITTLE, University College, Reading.
- LEOPOLD A. LIVENTHAL, West of Scotland Agricultural College, Glasgow.
- THOMAS M'CORMICK, West of Scotland Agricultural College, Glasgow.
- ALEXANDER M'CRORIE, West of Scotland Agricultural College, Glasgow.
- WILLIAM DOUGLAS MACFARLANE, West of Scotland Agricultural College, Glasgow.
- JOHN MACGILLIVRAY, West of Scotland Agricultural College, Glasgow.
- JAMES MENZIES MACNAIR, West of Scotland Agricultural College, Glasgow.
- JAMES NAISMITH MAIN, West of Scotland Agricultural College, Glasgow.
- DORIS MELVILLE-JACKSON, S.E. Agricultural College, Wye.
- GRAHAM MUNRO, West of Scotland Agricultural College, Glasgow.
- JOHN OLDNALL PAGE, Harper-Adams Agricultural College, Newport, Salop.
- HUGH WOODLAND PARSONS, University College, Reading.
- COMPTON EDWIN PEARSON, Harper-Adams Agricultural College, Newport, Salop.
- ARTHUR NORMAN PLAXTON, Leeds University.
- WILLIAM ARNOLD POLGLAZE, Harper-Adams Agricultural College, Newport, Salop.
- LESLIE CULLUM RIPPER, Harris Institute, Preston.
- ADRIAN JOHN ROBB, West of Scotland Agricultural College, Glasgow.
- JAMES ALLAN RODGER, West of Scotland Agricultural College, Glasgow.
- MALCOLM ROSS, West of Scotland Agricultural College, Glasgow.
- ROBERT MILLAR SCOTT, West of Scotland Agricultural College, Glasgow.
- WILLIAM NEIL SINCLAIR, West of Scotland Agricultural College, Glasgow.
- JOHN DICK SMART, Harper-Adams Agricultural College, Newport, Salop.
- JACOB HAROLD SMITH, Armstrong College, Newcastle-on-Tyne.
- JACK SOLOMON, Midland Agricultural College, Sutton Bonington.
- BERNARD STEVENSON, Harper-Adams Agricultural College, Newport, Salop.
- WILLIAM GEORGE TALBOT, West of Scotland Agricultural College, Glasgow.
- JOHN THOMPSON, Harris Institute, Preston.
- JOSEPH KENYON THOMPSON, Leeds University.
- LAWRENCE ARTHUR THOMPSON, Midland Agricultural College, Sutton Bonington.
- MILISAV TODOROVITCH, Harper-Adams Agricultural College, Newport, Salop.
- WALTER HUBERT TURNBULL, Midland Agricultural College, Sutton Bonington.
- JOHN N. C. WEIR, West of Scotland Agricultural College, Glasgow.
- JOSEPH EDWARD WELLS, Midland Agricultural College, Sutton Bonington.
- MARY SCOTT WESTBROOK, University College, Reading.
- L. N. TRANT WILLIAMS, Harper-Adams Agricultural College.
- STEPHEN YOUNG WYLLIE, West of Scotland Agricultural College.

#### EXAMINATION PAPERS OF PAST YEARS.

Copies of the Papers set at the Annual Examination for the National Diploma in the Science and Practice of Agriculture held in 1921 may be had upon application. Price 6d. per set.

## VETERINARY DEPARTMENT

The Society established a Veterinary Department in 1823, but by an arrangement made with the Royal College of Veterinary Surgeons, the Society's examination ceased in 1881. Holders of the Society's Veterinary Certificate are entitled to become Members of the Royal College of Veterinary Surgeons on payment of certain fees, without being required to undergo any further examination. The number of Students who passed for the Society's Certificate is 1183.

The Society votes annually eleven silver medals for Class Competition to each of the two Veterinary Colleges in Scotland, the one in Edinburgh and the other in Glasgow.

## FORESTRY DEPARTMENT

The Society grants **FIRST and SECOND CLASS CERTIFICATES** in FORESTRY.

1. An Examination will be held each year about the month of March.
2. The next Examination will be held at 3 George IV. Bridge, Edinburgh, in the month of March 1924, provided a sufficient number of candidates present themselves for examination.
3. Candidates must possess—1. A thorough acquaintance with the theory and practice of Forestry. 2. A general knowledge of the following branches of study, so far as these apply to Forestry: (a) The Elements of Botany and Forest Zoology; (b) The Elements of Physics, Chemistry, and Meteorology; (c) Forest Engineering, including Land and Timber Measuring and Surveying; Mechanics and Construction, as applied to fencing, draining, bridging, road-making, and saw-mills; and Implements of Forestry; (d) Book-keeping and Accounts.
4. The examinations are open to candidates of any age, may be both written and oral, and will include such practical tests as may from time to time be decided to apply.
5. The maximum number of marks for each subject is 100; Pass marks for First-Class Certificate—Forestry, 75; all other subjects, 60. Pass marks for Second-Class Certificate—Forestry, 60; all other subjects, 50.
6. A Candidate who obtains Pass marks in certain subjects, but fails in others, may come up for these other subjects alone, it being understood that without the special permission of the Society no Candidate will be eligible to enter for more than two subsequent examinations.
7. A Candidate who has obtained the Second-Class Certificate may enter again for the First-Class Certificate.

The list of students who obtained certificates prior to 1899 appears in the 'Transactions,' Fifth Series, vol. xi. (1899).

The following have since obtained First-Class Certificates :—

ERIC ARTHUR NOBBS, Department of Agriculture, Cape Town, . . . . .	1899
GEORGE POTTS, Grey College, Bloemfontein, Orange River Colony, . . . . .	1899
DUNCAN S. RABAGLIATI, 1 St Paul's Road, Bradford, . . . . .	1901
FRANK SCOTT, Dumfries House Mains, Cumnock, . . . . .	1903
WILLIAM T. STOCKLEY, Rose Villa, Garswood, near Wigan, . . . . .	1906
A. FRANK WILSON, C.D.A. (Edin.), Reedieleys, Auchtermuchty, . . . . .	1907
GEORGE FISHER, Farm Brook, Pilling, Garstang, Lancs., . . . . .	1909
JOHN PATTEN, jun., Hulne Park, Alnwick, . . . . .	1909
ALEXANDER MITCHELL, Dalmeny Park, Edinburgh, . . . . .	1909
JOHN D. DAVIDSON, Brimstage, Birkenhead, . . . . .	1911
DONALD DOULL, M.A., A.R.C.Sc., High School, Kelso, . . . . .	1911
JAMES W. MACKAY, Jervaulx Abbey, Middleham, Yorks., . . . . .	1915
HARRY WATSON, Darnaway, Forres, . . . . .	1915
REGINALD WATT HUNTER, 94 St George's Terrace, Newcastle-on-Tyne, . . . . .	1919
JOHN M'EWEN, Monaughty Forest, by Elgin . . . . .	1922
ALFRED POPE, Swinsty Hall, Fewston, Harrogate . . . . .	1922

The following have since obtained Second-Class Certificates :—

WILLIAM BRUCE, B.Sc., East of Scotland College of Agriculture, Edinburgh, . . . . .	1901
RAJAPPIER SWAMINATHAN, 56 Jesus Lane, Cambridge, . . . . .	1901
THOMAS USHER, Courthill, Hawick, . . . . .	1901
ALLAN CARRUTH, Lawmarnock, Kilbarchan, . . . . .	1905
ALEX. M. LUMSDEN, Newburn Schoolhouse, Upper Largo, . . . . .	1905
ROBERT M. WILSON, Laws Cottage, Duns, . . . . .	1905
THOMAS CAMPBELL, Greystoke, Penrith, . . . . .	1906
DONALD FERGUSON, Quarry Lane, Lennoxtown, . . . . .	1906
CHARLES PENRHYN ACKERS, Huntly Manor, Gloucester, . . . . .	1908
ROBERT HOWIE, Beechwood, Arbroath, . . . . .	1908
JOHN TROTTER, D.Sc., 22 West Savile Terrace, Edinburgh, . . . . .	1908
JAMES A. S. WATSON, Downieken, Dundee, . . . . .	1908
NORMAN H. PEARSON, 52 Percy Park, Tynemouth, . . . . .	1909
LIONEL F. STOBART, Royal Agricultural College, Cirencester, . . . . .	1911
ALEXANDER GEORGE NORRIE, Cairnhill, by Turriff, . . . . .	1913
WILLIAM WATT, Darnaway, Forres, . . . . .	1913
WILLIAM P. GREENFIELD, 6 Littlefield Lane, Grimsby, . . . . .	1915

## SYLLABUS OF EXAMINATION

### I.—SCIENCE OF FORESTRY AND PRACTICAL MANAGEMENT OF WOODS.

I. *Principles of Scientific Forestry*.—1. Effects of heat, light, moisture, and air-currents on forest vegetation. 2. Effects of depth, porosity, moisture, and chemical composition of the soil on forest vegetation. 3. Effects of forest vegetation on the soil and air. 4. Rate and extent of development, longevity, and reproductive power of trees. 5. Pure and mixed woods. 6. Systems of silviculture.

II. *Forest Organisation*.—7. General ideas regarding a regulated system of forest management. 8. Knowledge of working plans of forests.

III. *Practical Management of Woods*.—9. Draining and irrigation. 10. Choice of species for various situations. 11. Seed and sowing, including nurseries. 12. Planting. 13. Natural regeneration by seed, shoots, and suckers. 14. Formation of mixed woods. 15. Tending of young woods. 16. Pruning. 17. Thinning. 18. Sylvicultural characteristics of the principal trees.

IV. *Injuries by Storms and Fires*.—19. Storms. 20. Fires.

V. *Timber*.—21. Its technical properties. 22. Its defects. 23. Recognition of different kinds of timber. 24. Processes for increasing its durability.

VI. *Utilisation of Produce*.—25. Uses of wood and other produce. 26. Felling. 27. Conversion. 28. Seasoning. 29. Transport. 30. Sales. 31. Harvesting of bark.

## II.—FOREST BOTANY AND FOREST ZOOLOGY.

### (a) FOREST BOTANY.

The fundamental facts of morphology, physiology, and classification of plants. The structure and function of the plant-cell and the plant-tissues. Their primary distribution. The secondary changes they exhibit in consequence of perennation.

The structure and function of the root and shoot in flowering-plants. Buds, their forms and uses. The flower. The fruit. The seed.

The structure and function of vegetative and reproductive organs of fungi.

Relationship of plants to air, soil, and water. Effect of light, heat, and mechanical agencies upon plants. Nutrition. The nature and elements of the food of plants. Sources of plant-food. The absorption, elaboration, transference, and storage of food. Respiration and transpiration. Parasites and saprophytes. Symbiosis.

Growth of plants in length and thickness. Correlation of growth, pruning. Germination of seeds. Formation of wood and bark. Healing of wounds.

Diseases of plants due to faulty nutrition and unfavourable circumstances of growth. Diseases due to attacks of fungi.

Natural reproduction and propagation by seeds and by buds. Fertilisation of flowers. Hybridisation. Artificial propagation by budding, grafting, layering, and cutting.

The characters of the large groups and classes of the vegetable kingdom. The characters of the families of plants which include the chief timber trees. The botanical characteristics of the principal British forest-trees (including the structural features of their wood). The weeds of the forest and their significance.

### (b) FOREST ZOOLOGY.

The group Insecta: its position in the animal kingdom. Structure, mode of reproduction, and metamorphosis of insects. The outlines of classification of the group. Conditions favourable to the numerical increase of insects. Natural checks to increase (*e.g.*, birds, mammals, parasitic insects). The identification and life-history of the more important insects injurious to forest trees and fruit trees. The damage caused by these insect pests and their mode of attack. The damage caused by animals. Preventive and remedial measures.

### III.—PHYSICS, CHEMISTRY, AND METEOROLOGY.

#### *Physics.*

Mass, weight, specific gravity, solid, liquid, and gaseous states of matter. Capillarity, osmose, vapour tension, suction pump, force pump, syphon, barometer, atmospheric pressure. Boyle's law. Levers and pulleys. Heat, measurement of heat, specific heat; transference of heat by conduction, convection, and radiation. Boiling and freezing. Latent heat. The thermometer. The conservation and transformation of energy. Light—reflection, refraction, polarisation; the spectrum. The rudiments of electricity and magnetism.

#### *Chemistry.*

Elements. Oxygen, hydrogen, nitrogen,—their preparation, properties, and chief compounds. Acids, bases, salts. Combustion, oxidation, reduction. Sulphur, carbon, phosphorus; and their compounds, with oxygen and hydrogen. Metals—potassium, sodium, calcium, magnesium, aluminium, iron, copper, lead, mercury, and their chief compounds. Carbohydrates, marsh gas, olefiant gas, alcohol, acetic acid, oxalic acid. Distillation of wood and coal.

#### *Meteorology.*

The atmosphere, its composition and physical properties. Measurement of pressure and temperature. The barometer. Rain, hail, snow, fog, cloud, dew, the dew-point, hoar frost. The weathering of rocks and soils. Gases injurious to vegetation.

### IV.—FOREST ENGINEERING, INCLUDING LAND AND TIMBER MEASURING AND SURVEYING; MECHANICS AND CONSTRUCTION AS APPLIED TO FENCING, BRIDGING, ROAD-MAKING, AND SAW-MILLS.

1. The use of the level and measuring-chain. Measuring and mapping surface areas. 2. The measurement of solid bodies—as timber, stacked bark, fagots, &c., earthwork. 3. The different modes of fencing and enclosing plantations; their relative advantages, durability, cost of construction, and repairs. 4. The setting out and formation of roads for temporary or permanent use. 5. The construction of bridges over streams and gullies; of gates or other entrances. 6. The construction and working of estate saw-mills.

### V.—ARITHMETIC—BOOK-KEEPING.

1. Arithmetic—including Practice, Proportion, and Decimal Fractions. 2. Book-keeping—including the description of books to be kept, and the solution of practical questions in Book-keeping and the preparation of Accounts.

## EXAMINATION PAPERS, 1922.

## PRACTICAL FORESTRY.

1. In a practically treeless hilly area, the planting of which you are entrusted with, explain the principles which would guide you in arriving at the limit of altitude for profitable tree-growth, considering generally the effect of latitude, aspect, wind, and soil (plantable soil being classed good, fair, and poor). State briefly the advantages of such a classification of soils.

2. Explain the method you would adopt in laying down the boundary line of an extensive plantation, assuming that the area to be planted is of a hilly and exposed nature.

State the type of fence you would recommend for the foregoing area for preventing sheep and ground-game from entering the plantation; and give a specification and an approximate cost per yard of its erection.

3. Compare the respective advantages and disadvantages of Spring and Autumn planting, and indicate under what conditions either season may be preferred.

What are, in your opinion, the most favourable spacing distances at which to plant trees? Choose any four species, and state the planting distances you would select for each, and state your reasons for the spacings you indicate.

4. Describe the kinds of soil and climatic conditions most favourable for the successful cultivation of the following: Oak, Ash, Larch, Douglas Fir, and Norway Spruce.

5. An estate with 2000 acres of timber is to be sold, and you are invited by the vendor to make a valuation of the timber. The timber is composed of 500 acres of mature wood of Oak, Ash, and Larch, 100 years of age; 500 acres of pure Scots Pine, 80 years of age; and 500 acres of pure Scots Pine from 30 to 40 years of age. There are also 500 acres of young plantations under 20 years of age. State how you would proceed to ascertain volume and value of the first three classes, and on what principle you would value the younger plantations. Give prices per cubic foot for the older timber.

6. At what stage in the life of a coniferous plantation should thinning operations be begun? and state the objects and benefits of thinning.

*(Three hours allowed.)*

## FOREST BOTANY AND FOREST ZOOLOGY.

## (A) FOREST BOTANY.

*(Four questions only to be attempted.)*

1. Describe the buds, flowers, and fruit of Elm, Alder, and Lime.

2. What is the general microscopic structure of the foliage leaf of such a tree as the Beech or Oak? In what essential ways does the

structure differ from that in the leaf of a Pine? Suggest reasons for the differences.

3. Write a life-history of the Fungus which causes "Dry-Rot." Suggest preventive measures.

4. Write a life-history of *Taxus baccata*.

5. Name and give characters for recognition of any three forest weeds known to you. State the harm each does.

### (B) FOREST ZOOLOGY.

*(Two questions only to be attempted.)*

1. Describe by means of diagrams the nature of the brood-galleries of the Pine Beetle (*Myelophilus piniperda*), the Large Ash-Bark Beetle (*Hylesinus crenatus*), the Two-Toothed Pine Beetle (*Pityogenes* or *Tomicus bidentatus*).

2. Describe a Lepidopterous insect harmful to Larch or Pine under the headings:—

- (a) how recognised as adult,
- (b) how recognised as larva,
- (c) the nature of the damage,
- (d) treatment.

3. Name and distinguish four kinds of gall due to insects, and write an account of one of them, from origin to ripe condition.

*(Two hours and a half allowed.)*

### PHYSICS, CHEMISTRY, AND METEOROLOGY.

1. State what is meant by the terms combustion, oxidation, and reduction, distinguishing between the last two. Under which of these heads would you classify the following chemical changes: phosphorus, copper, mercuric oxide, magnesium, heated in air?

2. What type of compound is produced when an element combines with oxygen? Into what groups may the elements be divided according to the properties of these compounds? State the general properties, distinguishing the elements of these groups.

3. Name the chief sources of *any three* of the following metals, and describe the extraction of the metal in *any one* case: sodium, calcium, iron, aluminium, lead, mercury.

4. Define the boiling-point of a liquid. If the boiling-point of a liquid is observed simultaneously at the foot and on the top of a mountain, state and explain any difference which would be noted.

5. Explain the formation of cloud and rain. What is understood by the "dew-point," and what is the purpose of determining it?

*(An hour and a half allowed.)*



## FOREST ENGINEERING.

1. From the following level-book notes, with a datum line 25 feet below the ground-level at distance 0 :

- (a) Calculate and check the reduced levels.
- (b) Plot the section to a horizontal scale of 100 feet to an inch, and a vertical scale of 10 feet to an inch.
- (c) Indicate the direction of bottom line of drainage pipes, and find the slope of this line.

Rise.	B. S.	I. S.	F. S.	Fall.	Reduced level.	Distance in feet.	Remarks.
	14.54	12.63			25.00	—	B. M.
						0	⊙ A, bottom of drain-pipe is to be 2.05 feet below surface at ⊙ A.
		8.51				90	
		10.24				160	
	7.65		14.28			240	
		4.10				350	
		2.89				430	
		8.51				540	
		11.94				620	
			15.19			700	⊙ B, level of water of pond. Bottom of drain-pipe to be 1 foot above water-level.

2. Draw a rough sketch of a field from the following notes, and find its area in acres, &c.

3. Describe, with the aid of a diagram, how you would proceed to carry out the survey of a thick wood, where all the work must be done from the outside, and only a chain and poles are available.

4. A circular plantation is to be formed containing four acres. How many yards of fencing would be required to enclose it?

5. A ditch is to be 3 feet deep,  $4\frac{1}{2}$  feet wide at the top, and  $1\frac{1}{2}$  feet wide at the bottom; it is 120 rods in length, and the cost of excavating the soil is estimated at 6d. per cubic yard. What will be the total cost of the work?

6. How would you obtain the width of a river which is too broad for direct measurement? than a chain, is to be used.

Links.		
210	⊙ B	
0	854	
	721	
	600	
	415	182
124	280	
	134	
	⊙ A	110

No instrument, other

(Two hours allowed.)

# ARITHMETIC AND BOOK-KEEPING.

## I. ARITHMETIC.

1. Find the simple interest on £7665 for 35 days at 5 per cent.
2. What is the value of a piece of timber 5 feet 3 inches long, 2 feet 4 inches wide, and 1 foot 2 inches thick @ 10s. 6d. per cubic foot?
3. Find by practice the value of 3 cwt., 3 quarters, and 14 lbs. @ 8s. 4d. per ton.
4. A small wood, square in shape, has an area of 5625 square yards. It is to be fenced, and the fence is to be erected at a distance of 2 yards from the wood. How many yards of fencing are required?

## II. BOOK-KEEPING.

Woodlands Estate has been recently purchased. A separate set of books is to be kept for each branch of the estate management by its supervisor, in which the details of all the transactions affecting the branch are to be recorded. At the end of the period these will be incorporated in the estate office books. You are in charge of one of the branches of the estate work.

1. State briefly—

- (1) What books you consider necessary properly to record your transactions.
- (2) What classes of accounts you expect it will be necessary to open in the ledger.
- (3) How at any given date you would satisfy yourself of the accuracy of your book-keeping.
- (4) How you would close your books at the end of the year.

*Note*—The transactions you have to record will be confined to purchases and sales, cash receipts and payments, including all expenses incidental to your department, and you will control a bank account.

2. Make the entries for the following transaction in the cash-book and the ledger.

1922.

Jan. 1.	Received from estate office . . . . .	£150 0 0
" 2.	Paid into bank . . . . .	120 0 0
" 2.	Ordered on credit from G. Toole, implements valued at . . . . .	100 0 0
" 2.	Paid for books and stationery in cash . . . . .	2 0 0
" 3.	Sold to S. Birch on credit 500 Scots pine @ 15s. each . . . . .	
" 3.	Sold to D. Dick, and received payment, deadwood valued at . . . . .	10 0 0
" 3.	Bought from F. Timber, young trees on credit . . . . .	200 0 0
" 4.	Paid hire of horses used in haulage . . . . .	5 0 0
" 6.	Received from S. Birch to account, and paid into bank . . . . .	250 0 0
" 6.	Paid G. Toole in full by cheque, less 5 per cent discount . . . . .	95 0 0
" 7.	Paid wages for week . . . . .	8 0 0

3. How would you propose to keep trace of all implements purchased or acquired?

*(One hour and a half allowed.)*

## DAIRY DEPARTMENT

### EXAMINATION IN THE SCIENCE AND PRACTICE OF DAIRYING

This Examination, instituted in 1897, is conducted by the National Agricultural Examination Board, appointed jointly by the Royal Agricultural Society of England and the Highland and Agricultural Society of Scotland.

#### REGULATIONS.

1. The Societies may hold annually in England and in Scotland, under the management of the National Agricultural Examination Board appointed by them, one or more Examinations for the National Diploma in the Science and Practice of Dairying; the Diploma to be distinguished shortly by the letters "N.D.D."

2. The Examinations will be held on dates and at places from time to time appointed and duly announced.

3. A non-returnable fee of *Three Guineas* will be required from each candidate.

4. Forms of Entry for the Examination in England may be obtained from "The Secretary, Royal Agricultural Society of England, 16 Bedford Square, London, W.C.1," and must be returned to him duly filled up, with the entry-fee of £3, 3s., on or before Saturday, August 11, 1923.

5. Forms of Entry for the Examination in Scotland may be obtained from "The Secretary, Highland and Agricultural Society of Scotland, 3 George IV. Bridge, Edinburgh," and must be returned to him duly filled up, with the entry-fee of £3, 3s., on or before Saturday, August 11, 1923.

6. A candidate may enter for the Examination either in England or Scotland, but not in both, and a candidate who has once taken part in an Examination in England cannot enter for an Examination in Scotland, or *vice versa*.

7. As a preliminary to the acceptance of an application for permission to enter for the Examination, a candidate must produce:—

(1) A certificate testifying that he or she has received at least SIX session months' instruction (not necessarily continuous) in practical dairy work at an approved Dairy training institution.

(2) Evidence that he or she has spent at least SIX months on an approved Dairy farm (which period must not run concurrently with that referred to in sub-section 1), and that he or she has taken part in the work.

(3) Certificates in a prescribed form, from a recognised institution (or recognised institutions) showing that he or she has attended approved courses in Chemistry, Bacteriology, and Botany, and has satisfied the authorities of the institution of his (or her) fitness for admission to the Examination.

8. In the Examination a candidate will be required to satisfy the Examiners, by means of written papers, practical work, and *viva voce*, that he or she has—

- (1) A general knowledge of the management of a Dairy Farm, including the rearing and feeding of Dairy Stock, the candidate being required to satisfy the Examiners that he or she has had a thorough training and practical experience in all the details of Dairy work as pursued on a farm.
- (2) A thorough acquaintance, both practical and scientific, with everything connected with the management of a Dairy, and the manufacture of Butter and Cheese.
- (3) Practical skill in Dairying, to be tested by the making of Butter and Cheese.

NOTE.—A candidate must be prepared to make any one of the following varieties of Hard-pressed Cheese, the Examiner in Cheesemaking having the option of saying during the Examination what variety a candidate shall make:—

AT THE ENGLISH CENTRE—Cheddar, Cheshire, or Derby.

AT THE SCOTTISH CENTRE—Cheddar, Dunlop, or Cheshire.

- (4) Capacity for imparting instruction to others.

9. The maximum marks obtainable and the marks required for a pass in each subject are as follows:—

	Max.	Pass.
General Dairying Paper . . . .	200	120
Cheese-making Paper . . . .	200	120
Chemistry and Bacteriology Paper . . . .	200	120
Hard Pressed Cheese-making . . . .	200	150
Blue Veined Cheese-making . . . .	100	75
Soft Cheese-making . . . .	100	75
Butter-making . . . .	200	150
Capacity for imparting instruction to others	100	50
	<hr/> 1300	<hr/> 860

Honours will be awarded to candidates obtaining an aggregate of 80 per cent (1040) of the maximum marks (1300) in the examination, provided that they also obtain at least 80 per cent (320) of the maximum marks (400) in the General Dairying and Cheese-making Papers.

10. The Board reserve the right to postpone, to abandon, or in any way, or at any time, to modify an Examination, and also to decline at any stage to admit any particular candidate to the Examination.

## DATES OF EXAMINATIONS IN 1923.

**ENGLAND**—FRIDAY, September 7th, and following days, at the University College and British Dairy Institute, Reading; last date for receiving applications, SATURDAY, August 11th.

**SCOTLAND**—FRIDAY, September 21st, and following days, at the Dairy School for Scotland, Kilmarnock; last date for receiving applications, SATURDAY, August 11th.

## SYLLABUS OF SUBJECTS OF EXAMINATION IN THE SCIENCE AND PRACTICE OF DAIRYING

### I.—GENERAL MANAGEMENT OF A DAIRY FARM.

1. *General Management of Pastures and Crops on a Dairy Farm.*
2. *Buildings.*—Situation, Surroundings, Construction, Ventilation, and Drainage of Farm Buildings. Suitability of building materials. Water supply. Construction and arrangement of Dairies: (a) for General Purposes; (b) for Special Purposes.
3. *Foods and Feeding.*—Summer and Winter Feeding of Dairy Cattle. Root crops. Green fodder. Ensilage. Different kinds of food and their composition. Their effect upon Milk, Butter, and Cheese. Special Foods used in Dairy Feeding. Preparation of food for Dairy Stock. Rearing and feeding of young Stock. Feeding and management of Pigs and Poultry.
4. *Dairy Cattle in Health and Disease.*—Characteristics of different Breeds, and choice of Dairy Cattle. General functions of the organs of the animal body. Breeding. Parturition. Organs which secrete milk. Process of milk secretion. Changes which food undergoes during digestion. Diseases of Dairy Cattle and their remedies.

### II.—MANAGEMENT OF DAIRY.

1. *Milk and Cream.*—Process of Milking. Dairy Utensils and Appliances, hand and power. Cooling of Milk. Separation and ripening of Cream. Different systems of Cream-raising. Utilisation of Skim-milk. Keeping of Milk. Importance of Cleanliness. Diseases spread by Milk. Conveyance and sale of Milk. Milk records. Keeping of Dairy and Farm Accounts. Creameries. Butter and Cheese Factories. Different systems of Dairying and their comparative returns.
2. *Butter.*—Churns and other Butter-making appliances, hand and power. Souring of Cream. Churning. Washing and working of Butter. Butter-milk. Packing and transmission of Butter. Salting and keeping of Butter. Colouring. Characteristics of good Butter.
3. *Cheese.*—Principles of its manufacture. Making of different kinds of Cheese (from cream, whole-milk, and skim-milk). Acidity of Milk. Use of Rennet and its substitutes. Whey. Appliances for Cheese-making. Ripening and storage of Cheese. Packing and sale of Cheese. Making of Cream and other soft Cheeses.

### III.—CHEMISTRY AND BACTERIOLOGY.

[*N.B.*—In this Section there will be expected of the candidate a sound understanding of the scientific principles underlying the practice of Dairying, a knowledge of the composition, nature, properties, and changes undergone by the different substances met with in Dairying, and a general acquaintance with the principles of laboratory methods so far as Dairying is concerned, including the use of the microscope in identifying organisms.]

1. *General Principles of Chemistry*.—The nature of elements and compound bodies. The different forms of matter—solid, liquid, gaseous. Specific gravity, and instruments for determining it. Temperature, and methods of measuring it. Thermometric scales. The influence of temperature in Dairy operations. Physical and chemical changes involved in the following: solution, precipitation, filtration, distillation, oxidation, and reduction. Acids, Bases, Salts—their distinctive properties. Acidity and Alkalinity—their influence and quantitative estimation. Examination and identification of specimens and apparatus.

The Atmosphere—its constituents and impurities; its influence on Dairy operations. Atmospheric pressure.

Water—constituents of pure and natural waters. The impurities of water, and whence derived. The importance of a pure water supply in Dairying.

General knowledge of the elementary chemistry of the following substances and their compounds so far as met with in Dairying: Potash, Soda, Ammonia, Lime, Phosphoric Acid, Alcohol, Acetic Acid, Carbonic Acid, Butyric Acid, Lactic Acid, Albumen, Casein, Fats, Milk-sugar, Glycerine, Pepsin.

Saponification of Fats.

2. *Milk and its Products*.—The nature, composition, properties, and chemical constituents of milk. Microscopical appearances presented by milk. The circumstances that affect the quality and quantity of milk produced by the cow. The influence of feeding. The changes which occur in the keeping of milk, and how produced. The natural and artificial souring of milk. Rennet, its nature and use. Physical and chemical changes involved in the making and keeping of Butter, and in the manufacture and ripening of Cheese. Separated Milk, Condensed Milk, Fermented Milk. The use of Preservatives. Methods of Milk-testing—Mechanical methods, their theory and practice. A general knowledge of the methods employed in the chemical analysis of Milk and Butter. Adulteration of Milk, Cream, Butter, and Cheese—the ways in which adulteration is practised, the changes in composition thereby produced, and a general knowledge of the methods employed in detecting the same.

3. *The Chemistry of Feeding*.—The principal constituents of Food materials, and the functions they severally fulfil. The influence of Food constituents on milk production. Assimilation and Digestion. Animal Heat and Respiration. Milk as a Food. The relation of Food to Manure.

4. *Bacteriology*.—Moulds. Yeasts. Bacteria. The principal kinds of Bacteria met with in Dairying—their forms, methods of reproduction, and conditions of life. The influence of physical agencies upon Bacterial life. Air and Water as carriers of Bacteria. The changes produced by Bacteria in milk and its products. Useful forms and their functions. Harmful forms and their effects—Coagulation, Discoloration, Taints, &c. Pathogenic organisms. The classification of organisms—organised ferments and enzymes. The isolation of Bacteria. Methods of preparation of pure cultures and their practical use. Nutritive media. Soil Bacteriology—Assimilation of Nitrogen by Plants—Nitrification—Denitrification. Pasteurisation and Sterilisation—the practical application of these to Dairy matters. Fermentation and Putrefaction. Disinfectants and Preservatives.

N.B.—Candidates are required to bring their Laboratory Notes to the Oral Examination in this subject.

## IV.—PRACTICAL SKILL IN DAIRY WORK.

Candidates must be prepared—(1) to produce at or before the Examination a satisfactory certificate of proficiency in the Milking of Cows, signed by a practical Dairy Farmer, and to satisfy the Examiners by a practical test, if so required; (2) to churn and make into Butter a measured quantity of Cream; and (3) to make one Cheese of each of the following varieties: (i) \*Hard-pressed, of not less than 30 lb.; (ii) Veined or blue-moulded, of not less than 10 lb.; and (iii) also to make one or other of the following Soft Cheeses: Cambridge, Camembert, Coulommier, or Pont l'Évêque.

\* A candidate must be prepared to make any one of the following varieties of Hard-pressed Cheese, the Examiner in Cheesemaking having the option of saying during the Examination what variety a candidate will make:—

AT THE ENGLISH CENTRE—Cheddar, Cheshire, or Derby.

AT THE SCOTTISH CENTRE—Cheddar, Dunlop, or Cheshire.

## V.—CAPACITY FOR IMPARTING INSTRUCTION TO OTHERS.

*Candidates must also show practically that they are familiar with the management of a Dairy, and are capable of imparting instruction to others.*

The following obtained the Diploma in Scotland in 1922:—

*Diploma with Honours.*

1. FRANK R. HORNE, 47 Rolle Street, Exmouth, Devon.
2. WILLIAM D. M'FARLANE, 23 Kelvinside Gardens, Glasgow.
3. MALCOLM ROSS, 55 Smith Street, Govanhill, Glasgow.
4. WILLIAM D. D. JARDINE, Loretto, Endbutt Lane, Gt. Crosby, Liverpool.

*Diploma.*

GEORGE M. ANDERSON, Craigland, Dalbeattie.  
 ISABELLA BAIN, Milltimber Farm, Milltimber, Aberdeen.  
 MARGARET BROWN, The Flush, Campbeltown.  
 EMMA ISOBEL COUTTS, The Manse, Logie Buchan, Ellon.  
 IDA MECHAN CRAWFORD, 67 Forest Road, Aberdeen.  
 ALASTAIR A. M. FISHER, 35 Ladysmith Road, Edinburgh.  
 JACK FISHER, Seabank, Campbeltown.  
 FRANCES J. GLEGG, Bonaly Tower, Colinton, Mid-Lothian.  
 JOHN JACKSON, Berryknowe, Chryston, Glasgow.  
 ROBERT LAIRD, Lawthorn, Irvine.  
 MARY A. LESLIE, Auchnacloch, Nairn.  
 JAMES V. LOCHRIE, Maclean Cottage, Creebridge, Newton Stewart.  
 JOSEPH LYONS, Royal College of Science, Dublin.  
 ELIZABETH T. M'CALLUM, Duine, Ardfarn, Argyll.  
 WILLIAM M'CUBBIN, Barnchalloch Croft, Lochans, Stranraer.  
 HARRIET MACRAE, Blackstand, Rosemarkie, Ross-shire.  
 JAMES NAISMITH MAIN, Park Road, Hamilton.  
 MARGARET D. MITCHELL, Langlees, Biggar.  
 WILLIAM C. PATERSON, North Torfoot, Strathaven.  
 ADRIAN J. ROBB, 19 Seyton Avenue, Langside, Glasgow.  
 DAVID E. SIMPSON, Lyon Bridge, Fortingall, Aberfeldy.  
 JOHN STRANG, Duncanrigg Farm, East Kilbride.  
 ELIZABETH M. WATSON, South Monecht, Echt, Aberdeen.  
 ELIZABETH MARY WESTWATER, U.F. Manse, Prestonpans.  
 ELIZABETH T. WILSON, Bellvue, Eddleston, Peebles.

The following obtained the Diploma in England in 1922 :—

*Diploma with Honours.*

1. LESLIE JOHN WALKER, British Dairy Institute, Reading.
2. LEONARD JOHN MEANWELL, British Dairy Institute.
3. ANNE HALL, British Dairy Institute.
4. EVELINE MARY GRUNDY, British Dairy Institute.
5. DORA MARGARET PEACOCK, Midland Agricultural and Dairy College, Kingston, Derby.

*Diploma.*

MARGARET BRITTAI, Lancs. C.C. Dairy School, Hutton, Preston.  
 EDITH M. BURROWS, British Dairy Institute.  
 MARY M. L. CASTLE, Midland Agricultural and Dairy College.  
 VALERIE ESSEX CHEKE, Midland Agricultural and Dairy College.  
 ELIZABETH MARY CHOLMELEY, British Dairy Institute.  
 CONSTANCE ESTHER COHEN, British Dairy Institute.  
 WINIFRED BLANCHE COOK, British Dairy Institute.  
 FREDA MARY CRAWTER, East Anglian Institute of Agriculture, Chelmsford.  
 MARGARET WILLSON CRINAN, Lancs. C.C. Dairy School.  
 FRANK DARLING, Midland Agricultural and Dairy College.  
 DOROTHY DEWDNEY, British Dairy Institute.  
 MARY EDWARDS, British Dairy Institute.  
 MARIE MAGDELEINE FARRAT, British Dairy Institute.  
 ALBERTA MARY FOXLEE, East Anglian Institute of Agriculture.  
 MARY ELEANOR FRANKLIN, British Dairy Institute.  
 IDA KATHLEEN GLEAVE, Midland Agricultural and Dairy College.  
 MARGARET E. A. W. GURNER, British Dairy Institute.  
 PHYLLIS MARY HICKSON, British Dairy Institute.  
 CLEMENCY JOAN JACKSON, Midland Agricultural and Dairy College.  
 RUTH JOHNSTON, British Dairy Institute.  
 EMILY LAMBERT, Lancs. C.C. Dairy School.  
 AMY E. E. LAW, East Anglian Institute of Agriculture.  
 ARTHUR TOWNSEND LUTLEY, British Dairy Institute.  
 KITTY MARIA MANN, East Anglian Institute of Agriculture.  
 THOMAS MARTLEW, British Dairy Institute.  
 ALICE MASON, Midland Agricultural and Dairy College.  
 ELIZABETH MATTHEWS, British Dairy Institute.  
 JOHN THOMAS PEARSON, British Dairy Institute.  
 ESMÉ V. A. PETTYFER, British Dairy Institute.  
 ELSIE LILIAN POLLARD, Lancs. C.C. Dairy School.  
 SECRETAN RHYB-WILLIAMS, Midland Agricultural and Dairy College.  
 MONICA SLINGSBY, British Dairy Institute.  
 JANET MARY SPENCER, Midland Agricultural and Dairy College.  
 URSULA STARLING, British Dairy Institute.  
 JOHN DINGLE WILLIAMS, British Dairy Institute.  
 MARGARET WINTER, British Dairy Institute.

---

**EXAMINATION PAPERS OF PAST YEARS.**

Copies of papers set at past Examinations in Agriculture and in Dairying so far as available may be had on application. Price 6d. per set.  
 [N.D.A. Papers available are those for the years 1905, 1906, 1909, 1911, 1912, 1921, 1922.]



## CHEMICAL DEPARTMENT

*Chemist to the Society*—J. F. TOCHER, D.Sc., F.I.C., Crown Mansions,  
41½ Union Street, Aberdeen.

The object of the Chemical Department is to promote the diffusion of a knowledge of Chemistry as applied to agriculture among the members of the Society, to carry out experiments for that purpose, to assist members who are engaged in making local experiments requiring the direction or services of a chemist, to direct members in regard to the use of manures and feeding-stuffs, to assist them to put the purchase of these substances under proper control, and in general to consider all matters coming under the Society's notice in connection with the Chemistry of Agriculture.

## MEMBERS' PRIVILEGES IN RESPECT TO ANALYSES.

MANURES, FEEDING-STUFFS, SOILS, AND  
AGRICULTURAL PRODUCTS.

*This scale of fees applies only to members whose subscriptions are not in arrears.*

The fees for analyses made for members of the Society shall, until further notice, be as follows:—

The determination of one ingredient in a single sample of a <i>manure or of a feeding-stuff,</i>	5s.
The determination of two or more ingredients in a single sample of a <i>manure or of a feeding-stuff,</i>	10s.

For example—

Linseed and other cakes, for oil or for albuminoids,	} 5s.	
Feeding-meals, ground cereals, for oil or for albuminoids,		
Bone-meals, for nitrogen or for phosphate,		
Compound manures, for nitrogen or for soluble phosphates, or for insoluble phosphates or for potash,		
Superphosphate, for soluble phosphate or for insoluble phosphate,		
Thomas-phosphate powder, for citric soluble phosphate or for total phosphate,	} 10s.	
Linseed and other cakes, for oil and albuminoids, &c.,		
Feeding-meals, ground cereals, for oil, albuminoids, &c.,		
Bone-meals, for nitrogen, phosphate, &c.,		
Compound manures, for nitrogen, soluble phosphates, insoluble phosphates, and potash,		
Superphosphate, for soluble phosphate and insoluble phosphate,		
Thomas-phosphate powder, for citric soluble phosphate and total phosphate,		
Limestone, giving the percentage of lime,	£0	5 0
Limestone, complete analysis,	1	0 0
Lime, including ground lime, percentage of alkaline lime,	0	5 0
" " " complete analysis,	1	0 0
Analysis of soil, to determine fertility and recommenda- tion of manurial treatment,	1	10 0
Complete analysis of soil,	2	10 0
Analysis of agricultural products—hay, grain, ensilage, roots, &c.,	1	0 0

*These charges apply only to analyses made for agricultural purposes, and for the sole and private use of members of the Highland and Agricultural Society who are not engaged in the manufacture or sale of the substances analysed.*

Valuations of manures, according to the Society's scale of units, will be supplied if requested.

## DAIRY PRODUCE.

Milk, full analysis, . . . . .	£0 10 0
" solids and fat, . . . . .	0 5 0
" fat only, . . . . .	0 2 6
Butter, full analysis, . . . . .	0 10 0
" partial analysis (water and fat), . . . . .	0 5 0
Cheese, . . . . .	0 10 0

## WATER.

Analysis of water <sup>1</sup> to determine purity and fitness for domestic use (the Committee reserve power to refuse from one member more than two samples annually at the reduced fee).....at the reduced fee of	1 0 0
---	-------

## MISCELLANEOUS.

Search for poisons in food or viscera, . . . . .	2 0 0
Sulphate of copper, percentage of copper and purity, . . . . .	0 5 0
" " complete analysis, . . . . .	0 10 0
Arsenic, carbolic acid and tar acids, and other poisons used in making sheep dips, insecticides, &c., . . . . .	5s. to £1

Samples should be sent (carriage paid) to Dr J. F. Tocher, Crown Mansions, 41½ Union Street, Aberdeen.

*Note to Members sending Samples for Analysis.*

The Directors are anxious to take any steps in their power to expose the vendors of inferior fertilisers and feeding-stuffs, and the members can give them assistance in this by supplying to the chemist, when sending samples for analyses, information as to the guarantee, if any, on which the goods were sold, and also as to the price charged.

## INSTRUCTIONS FOR SELECTING SAMPLES FOR ANALYSIS.

## MANURES.

Any method of sampling mutually agreed upon between buyer and seller may be adopted, but the following method is recommended as a very complete and satisfactory one: Four or more bags should be selected for sampling. Each bag is to be emptied out separately on a clean floor, worked through with the spade, and one spadeful taken out and set aside. The four or more spadefuls thus set aside are to be mixed together until a uniform mixture is obtained. Of this mixture one spadeful is to be taken, spread on paper, and still more thoroughly mixed, any lumps which it may contain being broken down with the hand. Of this mixture two samples of about half a pound each should be taken by the purchaser or his agent, in the presence of the seller or his agent or two witnesses (due notice having been given to the seller of the time and place of sampling), and these samples should be taken as quickly as possible, and put into bottles or tin cases to prevent loss of moisture, and having been labelled, should be sealed by the samplers—one or more samples to be retained by the purchaser, and one to be sent to the chemist for analysis.

<sup>1</sup> Cases containing bottles for water samples and instructions for sampling are sent from the laboratory on application.

## FEEDING-STUFFS.

Samples of feeding-stuffs which are in the form of meal may be taken in a similar manner.

Samples of cake should be taken by selecting four or more cakes from the bulk. These should be nuted to a size not larger than walnuts. The nuted cake should then be thoroughly mixed and samples of not less than one pound each taken from it. The samples should be put into bottles or tins, sealed up, and labelled. One sample should be sent to the analyst, and one or more duplicates retained by the purchaser.

## SOILS.

Dig a little trench about two feet deep, exposing the soil and subsoil. Cut from the side of this trench vertical scrapings of the soil down to the top of the subsoil. Catch these on a clean board, and collect in this manner two pounds of soil taken from the whole surface of the section. Similar scrapings of subsoil immediately below should be taken and preserved separately. Five or six similarly drawn samples at least should be taken from different parts of the field, and kept separate while being sent to the chemist, that he may examine them individually before mixing in the laboratory.

## VEGETABLE PRODUCTS.

*Turnips, &c.*, at least 50 bulbs carefully selected as of fair average growth.

*Hay, straw, ensilage, &c.*, should be sampled from a thin section cut across the whole stack or silo, and carefully mixed; above 2 lb. weight is required for analysis.

*Grain* should be sampled like manures.

## DAIRY PRODUCE.

*Milk.*—Samples of milk from individual cows should be taken direct from the milk-pail after complete milking. Average samples from a number of cows should be taken immediately after milking. Specify whether the sample is morning or evening milk, or a mixture of these. Samples to be tested for adulteration should not be drawn from the bottom or taken from the top of standing milk, but they should be ladled from the vessel after the milk has been thoroughly mixed. Samples of milk should be sent immediately to the analyst.

For most purposes a half-pint bottle of milk is a large enough sample.

*Butter and Cheese.*—About quarter-pound samples are required.

## WATERS.

When the water is from a well, it should be pumped for some minutes before taking the sample.

If the well has been standing unused for a long time, it should be pumped for some hours, so that the water may be renewed as far as possible.

If the well has been newly dug or cleaned out, it should be pumped as dry as possible, daily, for a week before taking the sample.

Water from cisterns, tanks, ponds, &c., should be sampled by immersing the bottle entirely under the water, and holding it, neck upwards, some inches below the surface. *Water from the surface should not be allowed to enter the bottle.*

Spring or stream water should not be sampled in very wet weather, but when the water is in ordinary condition. Such waters should be sampled by immersing the bottle, if possible; but if not deep enough for that purpose, a perfectly clean cup should be used for transferring the water to the bottle.

When the bottle has been filled the stopper should be rinsed in the water before replacing it.

Interference with or disturbance of wells or springs, or the ground in their immediate vicinity, must be carefully avoided during sampling, and for at least twenty-four hours before it.

After a sample has been taken, it should be sent to the laboratory as speedily as possible.

A description of the source and circumstances of the water should accompany the sample, as the interpretation of the analytical results depends to some extent on a knowledge of such particulars.

*N.B.*—Stone jars and old wine bottles are unsuitable for conveying samples. Winchester quarts chemically cleaned should be obtained from the laboratory, Crown Mansions, 41½ Union Street, Aberdeen.

### LOCAL ANALYTICAL ASSOCIATIONS.

With the view of encouraging, as well as regulating the conduct of, Local Analytical Associations, the Society, from 1881 to 1893, contributed from its funds towards their expenses a sum not exceeding £250 annually. In view of the passing of the Fertilisers and Feeding Stuffs Act, 1893, it was decided, at a meeting of the Directors on the 6th of December 1893, to discontinue that grant after the 1st of March 1894.

### COMPOSITION AND CHARACTERISTICS OF MANURES AND FEEDING-STUFFS.

(See '*Transactions, Fifth Series, vol. xi., 1899.*')  
—

### FORMS OF GUARANTEE

#### GUARANTEE OF MANURE.

I guarantee that the manure called.....and sold by me t  
.....contains a minimum of—

*Soluble phosphoric acid* = Phosphate of lime dissolved.....per cent.

*Insoluble phosphoric acid* = Phosphate of lime undissolved.....per cent.

*Potash salts* . . . = Potash ( $K_2O$ ) . . . . .per cent.

*Total nitrogen* . . . = Ammonia . . . . .per cent.

Signature of seller.....

Date.....19...

#### GUARANTEE OF FEEDING-STUFF.

I guarantee that the feeding-stuff called.....and sold by me  
.....contains a minimum of—

..... per cent albuminoids.

..... per cent oil.

..... per cent carbohydrates.

Signature of seller.....

Date.....19...

## PRICES OF FERTILISERS AND FEEDING STUFFS FOR SEASON 1923.

(Cash Prices as fixed on 7th February. These prices are subject to variation from month to month or oftener).

### SUPERPHOSPHATES.

ITEM TO BE VALUED.	PRICES PER UNIT FOR THE UNDERNOTED PERCENTAGES.		
	30 per cent.	85 per cent.	88 per cent.
February Price . . .	£3 2 6	£3 11 3	£3 17 6
Price per Unit . . .	2/1	2/0½	2/0½

*N.B.—These units are based on the RETAIL CASH PRICES OF MANURES at Leith and Glasgow. When these units are multiplied by the percentages in the analysis of a Manure, they will produce a value representing very nearly the cash price per ton at which TWO TONS may be bought in fine sivable condition at Leith or Glasgow. Larger purchases may be made on more favourable terms.*

### FERTILISERS.

(Other than Superphosphates.)

Name of Fertiliser.	Guarantee.	Price per Ton.	Price per Unit.
Sulphate of Ammonia* . . . . .	20·8 % Nitrogen	£ s. d. 15 15 0	£ s. d. 0 15 1½
" " neutral* . . . . .	21·2 % Nitrogen	16 18 0	0 15 1½
Basic Slag (Thomas Phosphate Powder)†	18 % Total Phosphate	2 1 0	0 2 8½
" " " "	20 % " " "	2 5 0	0 2 8
" " " "	22 % " " "	2 9 0	0 2 2½
" " " "	40 % " " "	3 15 0	0 1 10½
Bone Meal, Home . . . . .	4 Nit. 45 % "	9 5 0	N 1 0 4
" " Indian . . . . .	4 " 45 % "	0 10 0	P 0 2 8½
Steamed Bone Flour . . . . .	1 " 60 % "	7 10 0	N 0 19 2½
Seychelles Guano . . . . .	½ " 60 % "	6 10 0	P 0 2 2½
Ground Mineral Phosphate . . . . .	60 %	8 5 0	N 0 17 9½
" " " "	65 %	8 12 6	P 0 2 0½
" " " "	75 %	4 10 0	0 1 1
Nitrate of Soda . . . . .	15·5 % Nitrogen	18 5 0	0 1 1½
" " Lime . . . . .	18·0 % "	12 12 6	0 19 5
Potash Salt ‡ . . . . .	80·0 % Potash	4 17 6	0 8 8
" " " " . . . . .	20·0 % "	8 10 0	0 8 6
Kainit (French) . . . . .	14·0 % "	2 7 6	0 8 4½
Muriate of Potash ‡ . . . . .	51·0 % "	8 10 0	0 8 4
Kainit (German) . . . . .	12·5 % "	2 2 6	0 8 4½
Sulphate of Potash ‡ . . . . .	49·0 % "	11 15 0	0 4 9½

The prices for all fertilisers are cash prices for two-ton lots at Leith or Glasgow, unless otherwise stated.

\* Carriage paid to any Railway Station in four-ton lots.

† On rail at slag works.

‡ French (Alsatian) or German (Saasfurt).

## FEEDING STUFFS.

Name of Feeding Stuff.	Price per Ton.	Name of Feeding Stuff.	Price per Ton.
	£ s. d.		£ s. d.
Linseed Cake (Home) . . . .	14 5 0	Parings (Fine Offals) . . . .	8 0 0
Cotton Seed Cake, White (Bombay) . . . .	7 10 0	Dried Brewers' Grains . . . .	8 5 0
Cotton Seed Cake (Egyptian) . . . .	8 5 0	Dried Distillery Grains . . . .	9 10 0
Decorticated Ground Nut Cake . . . .	13 10 0	Peas Mutter . . . . .	10 5 0
Semi-decorticated Ground Nut Cake . . . .	12 10 0	Peas Gram . . . . .	8 0 0
Undecorticated Ground Nut Cake . . . .	10 10 0	Feeding Treacle . . . . .	5 15 0
Palm Kernel Cake . . . . .	9 0 0	Locust Beans . . . . .	7 0 0
Cocoa Nut Cake (Home) . . . .	11 10 0	Maize (Flat American). . . .	9 0 0
Decorticated Cotton Seed Meal . . . .	13 10 0	Maize (Round Plate) . . . .	9 0 0
Decorticated Cotton Cake . . . .	12 15 0	Beans (Imported China) . . . .	12 10 0
Rice Bran . . . . .	7 15 0	Home Oats . . . . .	9 0 0
Bran (Medium Offals) . . . .	8 0 0	White Fish Meal . . . . .	16 2 6

## CLASSIFICATION OF MANURES.

BONE MEALS . . . . .	{	Genuine Bone Meal contains at least 45 per cent Tricalcium Phosphate, and from 2·75 per cent to 4 per cent Nitrogen. If phosphates are low nitrogen will be high, and conversely. If Bone Meal is so finely ground that 90 per cent or over passes a sieve of $\frac{1}{16}$ -inch mesh, an addition of 2/6 per ton should be made to the Valuation.
STEAMED BONE FLOUR . . . .	{	Ground to flour, and containing about 60 to 65 per cent Phosphates and about 1 to 1½ per cent Nitrogen.
MIXTURES AND COMPOUND MANURES . . . . .	{	To be valued according to the following units: Nitrogen, 16/-; Soluble Phosphate, 2/1; Insoluble Phosphate, 1/3; and Potash, 3/6. The value given is exclusive of mixing, bags, and bagging, and is the value at Leith or Glasgow.
DISSOLVED BONES . . . . .	{	Must be pure—i.e., containing nothing but natural bones and sulphuric acid.

## INSTRUCTIONS FOR VALUING MANURES.

The unit used for the valuation of manures is the hundredth part of a ton, and as the results of analyses of manures are expressed in parts per hundred, the percentage of any ingredient of a manure when multiplied by the price of the unit of that ingredient represents the value of the quantity of it contained in a ton.

As an example take muriate of potash; a good sample (see p. 40) will be guaranteed to contain 51 per cent of oxide of potash. All potash manures are valued according to the amount of potash (oxide of potash) they yield, and muriate of potash yields 51 per cent potash ( $K_2O$ )—i.e., 51 units per ton; and as a ton of muriate of potash costs £8, 10s., the price of the unit is the fifty-first part of that—viz.,  $3/4$ . If on analysis a sample of muriate of potash guaranteed to contain 51 per cent of potash is found to contain only 50 per cent, the price per ton will be  $3/4$  less—viz., £8, 6s. 8d.

Similarly with all other manures, the price per unit is derived from the price per ton of a sample of good material up to its guarantee, and

therefore the proper price per ton of a manure is found by multiplying the price of the unit of the valuable ingredient by the percentage as found by analysis. If a manure contains more than one valuable ingredient, the unit value of each ingredient is multiplied by its percentage, and the values so found when added together give approximately the price per ton of the manure.

Nitrate of soda contains no ammonia, but it contains nitrogen, and 14 units of nitrogen are equivalent to 17 units of ammonia.

The commercial values of manures are determined by means of the UNITS in the following manner:—

Take the results of analysis of the manure, and look for the following substances:—

Phosphates dissolved (or soluble phosphate)	} No other items but these are to be valued.
Phosphates undissolved (or insoluble phosphate)	
Total phosphates	
Nitrogen	
Potash	

Should the results of analysis or the guarantee not be expressed in that way, the chemist or the seller should be asked to state the quantities in these terms.

Suppose the manure is ground mineral phosphate—

The proportion of phosphate present may be 60 per cent. The price per unit of phosphate in ground mineral phosphate is 1/1. The value of ground mineral phosphate containing 60 per cent phosphate is therefore 60 times 1/1, equal to £3, 5s. per ton.

Suppose the manure is a superphosphate—say an ordinary superphosphate with 30 per cent soluble phosphate,—the price per unit of phosphate in superphosphate is 2/1. It is valued thus:—

Soluble phosphate. 30 times 2/1, equal to, say, £3, 2s. 6d.

Insoluble phosphate is not valued in a superphosphate.

Suppose the manure is a compound fertiliser containing 3 per cent nitrogen; 12 per cent soluble phosphate; 6 per cent insoluble phosphate; and 4 per cent potash.

The value of the nitrogen	will be 3 times 16/-	or £2 8 0	per ton.
" " soluble phosphate	" 12 "	2/1 or 1 5 0	"
" " insoluble "	" 6 "	1/3 or 0 7 6	"
" " potash	" 4 "	3/6 or 0 14 0	"
<hr/>			
£4 14 6			

The value of this manure will thus be £4, 14s. 6d. per ton, exclusive of the cost of mixing, bags, and bagging.

*Notes.*—The units have reference solely to the MARKET PRICES of Manures, and not to their AGRICULTURAL VALUES.

**TABLE OF COMPENSATION VALUES FOR 1923.**

**TABLE SHOWING THE VALUE OF FEEDING-STUFFS AS MANURE PER TON, AND THE COMPENSATION VALUE PER TON OF FOOD CONSUMED, BASED ON THE AVERAGE UNIT PRICES OF FERTILISERS FOR 1923.**

The following is a Table showing (under Section A) the average proportions of digested nitrogen, undigested nitrogen, phosphoric acid, and potash present in the feeding-stuffs named. The Table also shows the value per unit of nitrogen (digested and undigested), phosphoric acid, and potash, the prices per unit being the average value per unit prevailing for 1923. Under Section B of the Table is shown the compensation value per ton of food consumed for each of the feeding-stuffs named, based on the unit prices for 1923. Column (1) of Section B of the Table shows the value per ton recovered in dung; Col. (2) of the same section shows the value of the lasting part of dung per ton; while the remaining three columns show the residual values per ton after one crop, two crops, and three crops have been removed.

In accordance with the decision arrived at by the Committee appointed by a representative meeting of Scottish agriculturists, who reported in September 1917 on the "Compensation for Manurial Improvements and Cumulative Fertility," under the Agricultural Holdings (Scotland) Act, 1908, the value of undigested nitrogen per ton as manure is calculated as being 70 per cent of the value of digested nitrogen.



FOODS.	VALUE PER					
	Digested Nitrogen.			Undigested Nitrogen.		
	Per cent in food.	Value at 16s. per unit.	Two-fifths value to manure.	Per cent in food.	* Value at 11s. per unit.	Three-fourths value to manure.
		s. d.	s. d.		s. d.	s. d.
Cotton-cake, decorticated . . . . .	5.92	94 9	37 11	0.98	10 9	8 1
Cotton-cake, undecorticated . . . . .	2.73	43 8	17 6	0.81	8 11	6 8
Linseed-cake . . . . .	4.08	65 3	26 1	0.67	7 6	5 8
Linseed . . . . .	3.28	52 6	21 0	0.32	3 6	2 8
Soya-bean cake . . . . .	6.10	97 7	39 0	0.75	8 3	6 2
Palm-nut cake . . . . .	1.88	30 1	12 0	0.62	6 10	5 2
Cocoa-nut cake . . . . .	2.65	42 5	17 0	0.75	8 3	6 2
Earth-nut cake . . . . .	6.86	109 9	43 11	0.76	8 4	6 3
Rape cake . . . . .	3.97	63 6	25 5	0.93	10 3	7 8
Beans . . . . .	3.48	55 8	22 3	0.52	5 9	4 4
Pean . . . . .	3.10	49 7	19 10	0.50	5 6	4 2
Wheat . . . . .	1.49	23 10	9 7	0.31	3 5	2 7
Barley . . . . .	1.16	18 7	7 5	0.49	5 5	4 1
Oats . . . . .	1.52	24 4	9 9	0.48	5 3	3 11
Maize . . . . .	1.22	19 6	7 10	0.48	5 3	3 11
Rice-meal . . . . .	1.08	17 3	6 11	0.82	9 0	6 9
Locust beans . . . . .	0.82	13 1	5 3	0.38	4 2	3 2
Malt . . . . .	1.34	21 5	8 7	0.36	4 0	3 0
Malt culms . . . . .	3.12	49 11	20 0	0.78	8 7	6 5
Bran . . . . .	1.98	31 8	12 8	0.52	5 9	4 4
Brewers' and distillers' grains (dried) . . . . .	2.34	37 5	15 0	0.96	10 7	7 11
Brewers' and distillers' grains (wet) . . . . .	0.59	9 5	3 9	0.22	2 5	1 10
Dried distillery dreg . . . . .	3.45	55 2	22 1	1.86	20 6	15 5
Clover hay . . . . .	1.21	19 4	7 9	1.03	11 4	8 6
Meadow hay . . . . .	0.88	14 1	5 8	0.62	6 10	5 2
Wheat straw . . . . .	0.02	0 4	0 2	0.43	4 9	3 7
Barley straw . . . . .	0.10	1 7	0 8	0.30	3 4	2 6
Oat straw . . . . .	0.17	2 9	1 1	0.33	3 7	2 8
Mangolds . . . . .	0.15	2 5	1 0	0.07	0 9	0 7
Swedes . . . . .	0.16	2 7	1 0	0.09	1 0	0 9
Turnips . . . . .	0.13	2 1	0 10	0.05	0 7	0 5
Fish-meal . . . . .	8.08	129 3	51 8	0.90	9 11	7 5

See last paragraph of explanatory note to the Table.

A.						B.					
TON AS MANURE.						COMPENSATION VALUE PER TON OF FOOD CONSUMED.					
Phosphoric Acid.			Potash.			(1) Value re- covered in dung.	(2) Value of lasting part of dung.	Residual Value after.			
Per cent in food.	Value at 4s. 4d. per unit.	Three- fourths value to manure.	Per cent in food.	Value at 3s. 4d. per unit.	Three- fourths value to manure.			(3) One crop.	(4) Two crops.	(5) Three crops.	
	s. d.	s. d.		s. d.	s. d.	s. d.	s. d.	s. d.	s. d.	s. d.	
3.10	13 11	10 5	2.00	6 8	5 0	61 5	23 6	11 9	5 10	2 11	
2.00	9 0	6 9	2.00	6 8	5 0	35 11	18 5	9 2	4 7	2 3	
2.00	9 0	6 9	1.40	4 8	3 6	42 0	15 11	8 0	4 0	2 0	
1.54	6 11	5 2	1.37	4 7	3 5	32 3	11 3	5 8	2 10	1 5	
1.30	5 10	4 5	2.20	7 4	5 6	55 1	16 1	8 0	4 0	2 0	
1.20	5 3	3 11	0.50	1 8	1 3	22 4	10 4	5 2	2 7	1 3	
1.40	6 4	4 9	2.00	6 8	5 0	32 11	15 11	8 0	4 0	2 0	
2.00	9 0	6 9	1.50	5 0	3 9	60 8	16 9	8 4	4 2	2 1	
2.50	11 3	8 5	1.50	5 0	3 9	45 3	19 10	9 11	5 0	2 6	
1.10	4 11	3 8	1.30	4 4	3 3	33 6	11 3	5 8	2 10	1 5	
0.85	3 10	2 11	0.96	3 2	2 4	29 3	9 5	4 8	2 4	1 2	
0.85	3 10	2 11	0.53	1 9	1 4	16 5	6 10	3 5	1 8	0 10	
0.75	3 4	2 6	0.55	1 10	1 4	15 4	7 11	4 0	2 0	1 0	
0.60	2 8	2 0	0.50	1 8	1 3	16 11	7 2	3 7	1 10	0 11	
0.60	2 8	2 0	0.37	1 3	0 11	14 8	6 10	3 5	1 8	0 10	
0.60	2 8	2 0	0.37	1 3	0 11	16 7	9 8	4 10	2 5	1 2	
0.80	3 7	2 8	0.80	2 8	2 0	13 1	7 10	3 11	2 0	1 0	
0.80	3 7	2 8	0.60	2 0	1 6	15 9	7 2	3 7	1 10	0 11	
2.00	9 0	6 9	2.00	6 8	5 0	38 2	18 2	9 1	4 6	2 3	
3.60	16 2	12 2	1.45	4 10	3 7	52 9	20 1	10 0	5 0	2 6	
1.61	7 3	5 5	0.20	0 8	0 6	28 10	13 10	6 11	3 6	1 9	
0.42	1 11	1 5	0.05	0 2	0 1	7 1	3 4	1 8	0 10	0 5	
0.44	2 0	1 6	0.22	0 9	0 7	39 7	17 6	8 9	4 4	2 2	
0.57	2 7	1 11	1.50	5 0	3 9	21 11	14 2	7 1	3 6	1 9	
0.40	1 10	1 5	1.60	5 4	4 0	16 3	10 7	5 4	2 8	1 4	
0.24	1 1	0 10	0.80	2 8	2 0	6 7	6 5	3 2	1 7	0 10	
0.18	0 10	0 8	1.00	3 4	2 6	6 4	5 8	2 10	1 5	0 8	
0.24	1 1	0 10	1.00	3 4	2 6	7 1	6 0	3 0	1 6	0 9	
0.07	0 4	0 3	0.40	1 4	1 0	2 10	1 10	0 11	0 6	0 3	
0.06	0 3	0 2	0.22	0 9	0 7	2 6	1 6	0 9	0 4	0 2	
0.05	0 3	0 2	0.30	1 0	0 9	2 2	1 4	0 8	0 4	0 2	
7.24	32 7	24 5	0.50	1 8	1 3	84 9	33 1	16 6	8 3	4 2	

## BOTANICAL DEPARTMENT

*Consulting Botanist to the Society*—A. N. M'ALPINE,  
6 Blythswood Square, Glasgow.

The Society have fixed the following rates of charge for the examination of plants and seeds for the *bona fide* and individual use and information of members of the Society (not being seedsmen), who are particularly requested, when applying to the Consulting Botanist, to mention the kind of examination they require, and to quote its number in the subjoined schedule. The charge for examination must be paid at the time of application, and the carriage of all parcels must be prepaid.

### *Scale of Charges.*

1. A report on the purity, amount, and nature of foreign materials, and the germinating power of a sample of seed, 1s.
2. Determination of the species of any weed or other plant, or of any vegetable parasite, with a report on its habits and the means for its extermination or prevention, 1s.
3. Report on any disease affecting farm crops, 1s.
4. Determination of the species of any natural grass or fodder plant, with a report on its habits and pasture or feeding value, 1s.

The Consulting Botanist's Reports are furnished to enable members—purchasers of seeds and corn for agricultural or horticultural purposes—to test the value of what they buy, and are not to be used or made available for advertising or trade purposes by seedsmen or otherwise.

### *Purchase of Seeds.*

The purchaser should obtain from the vendor, by invoice or other writing, the proper designation of the seed he buys, with a guarantee of the percentage of purity and germination, and of its freedom from ergot, and in the case of clover, from the seeds of dodder or broom-rape.

It is strongly recommended that the purchase of *prepared mixtures* of seeds should be avoided. The different seeds should be purchased separately and mixed by the farmer: mixtures cannot be tested for germination.

### *The Sampling of Seeds.*

The utmost care should be taken to secure a fair and honest sample. This should be drawn from the bulk delivered to the purchaser, and not from the sample sent by the vendor.

When legal evidence is required, the sample should be taken from the bulk, and placed in a sealed bag in the presence of a witness. Care

should be taken that the sample and bulk be not tampered with after delivery, or mixed or brought in contact with any other sample or bulk.

At least one ounce of grass and other small seeds should be sent, and two ounces of cereals and the larger seeds. When the bulk is obviously impure the sample should be at least double the amount specified. Grass seeds should be sent at least four weeks, and seeds of clover and cereals two weeks, before they are to be used.

The exact name under which the sample has been sold and purchased should accompany it.

### *Reporting the Results.*

The Report will be made on a schedule in which the nature and amount of impurities will be stated, and the number of days each sample has been under test, with the percentage of the seeds which have germinated.

"Hard" clover seeds, though not germinating within the time stated, will be considered good seeds, and their percentage separately stated.

The impurities in the sample, including the chaff of the species tested, will be specified in the schedule, and only the percentage of the pure seed of that species will be reported upon; but the REAL VALUE of the sample will be stated. The Real Value is the combined percentages of purity and germination, and is obtained by multiplying these percentages and dividing by 100: thus in a sample of Meadow Fescue having 88 per cent purity and 95 per cent germination, 88 multiplied by 95 gives 8360, and this divided by 100 gives 83·6, the Real Value.

### *Selecting Specimens of Plants.*

The whole plant should be taken up and the earth shaken from the roots. If possible the plants must be in flower or fruit. They should be packed in a light box, or in a firm paper parcel.

Specimens of diseased plants or of parasites should be forwarded as fresh as possible. They should be placed in a bottle, or packed in tinfoil or oil-silk.

All specimens should be accompanied with a letter specifying the nature of the information required, and stating any local circumstances (soil, situation, &c.) which, in the opinion of the sender, would be likely to throw light on the inquiry.

Parcels or letters containing seeds or plants for examination (carriage or postage paid) must be addressed to Professor M'Alpine, Botanical Laboratory, 6 Blythswood Square, Glasgow.

**NOTE.**—*Members are reminded that seeds may now be tested at the Board of Agriculture for Scotland Seed-testing Station. Samples should be addressed, "The Secretary, Board of Agriculture for Scotland, SEED-TESTING STATION, York Buildings, Edinburgh."*

## ENTOMOLOGICAL DEPARTMENT

*Consulting Entomologist to the Society*—Dr R. STEWART MACDOUGALL,  
9 Dryden Place, Edinburgh.

Arrangements have been made with Mr R. Stewart MacDougall, M.A., D.Sc., Edinburgh, to advise members of the Society regarding insects or allied animals which, in any stage of their development, infest—

- |                                   |  |                                     |
|-----------------------------------|--|-------------------------------------|
| (a) Farm crops.                   |  | (d) Fruit and fruit trees.          |
| (b) Stored grain.                 |  | (e) Forest trees and stored timber. |
| (c) Garden and greenhouse plants. |  | (f) Live stock (including poultry). |

Members consulting Dr MacDougall will please forward with their queries examples of the injured plants, or the injured parts of plants, &c., as well as specimens of the insects or other animals believed to be the cause of the injury.

Specimens should be sent in tin or wooden boxes, or in quills, to prevent injury in transmission.

Address letters and parcels (carriage or postage paid) to Dr R. Stewart MacDougall, 9 Dryden Place, Edinburgh.

The Directors have fixed the fee payable by members to Dr MacDougall at 1s. for each case upon which he is consulted : this fee must be sent to him along with the application for information.

# PREMIUMS

## GENERAL REGULATIONS FOR COMPETITORS.

1. It is to be distinctly understood that the Society is not responsible for the views, statements, or opinions of any of the writers whose papers are published in the 'Transactions.'

2. All reports must be legibly written, and on one side of the paper only; they must specify the number and subject of the Premium for which they are in competition; they must bear a distinguishing motto, and be accompanied by a sealed letter, similarly marked, containing the name and address of the reporter—initials must not be used.

3. No sealed letter, unless belonging to a report found entitled to the Premium offered, or a portion of it, will be opened without the author's consent.

4. Reports for which a Premium, or a portion of a Premium, has been awarded, become the property of the Society, and cannot be published in whole or in part, nor circulated in any manner, without the consent of the Directors. All other papers will be returned to the authors if applied for within twelve months.

5. The Society is not bound to award the whole or any part of a Premium.

6. All reports must be of a practical character, containing the results of the writer's own observation or experiment, and the special conditions attached to each Premium must be strictly fulfilled. General essays, and papers compiled from books, will not be rewarded or accepted. Weights and measurements must be indicated by the imperial standards.

7. The Directors, before or after awarding a Premium, shall have power to require the writer of any report to verify the statements made in it.

8. The decisions of the Board of Directors are final and conclusive as to all matters relating to Premiums, whether for Reports or at General or District Shows; and it shall not be competent to raise any question or appeal touching such decisions before any other tribunal.

9. The Directors will welcome papers from any Contributor on any suitable subject, whether included in the Premium List or not; and if the topic and the treatment of it are both approved, the writer may be remunerated and his paper published.

## CLASS 1. REPORTS.

### SECTION 1.—THE SCIENCE AND PRACTICE OF AGRICULTURE.

#### FOR APPROVED REPORTS.

1. On any useful practice in Rural Economy adopted in other countries, and susceptible of being introduced with advantage into Scotland—The Gold Medal. To be lodged by 1st November in any year.

The purpose chiefly contemplated by the offer of this premium is to induce travellers to notice and record such particular practices as may seem calculated to benefit Scotland. The Report to be founded on personal observation.

2. Approved Reports on other suitable subjects. To be lodged by 1st November in any year.

### SECTION 2.—ESTATE IMPROVEMENTS.

#### FOR APPROVED REPORTS.

1. By the Proprietor in Scotland who shall have executed the most judicious, successful, and extensive Improvement—The Gold Medal, or Ten Sovereigns. To be lodged by 1st November in any year.

Should the successful Report be written for the Proprietor by his resident factor or farm manager, a Minor Gold Medal will be awarded to the writer in addition to the Gold Medal to the Proprietor.

The merits of the Report will not be determined so much by the mere extent of the improvements, as by their character and relation to the size of the property. The improvements may comprise reclaiming, draining, enclosing, planting, road-making, building, and all other operations proper to landed estates. The period within which the operations may have been conducted is not limited, except that it must not exceed the term of the Reporter's proprietorship.

2. By the Proprietor or Tenant in Scotland who shall have reclaimed within the ten preceding years not less than forty acres of Waste Land—The Gold Medal, or Ten Sovereigns. To be lodged by 1st November in any year.

3. By the Tenant in Scotland who shall have reclaimed within the ten preceding years not less than twenty acres of Waste Land—The Gold Medal, or Ten Sovereigns. To be lodged by 1st November in any year.

4. By the Tenant in Scotland who shall have reclaimed not less than ten acres within a similar period—The Medium Gold Medal, or Five Sovereigns. To be lodged by 1st November in any year.

The Reports in competition for Nos. 2, 3, and 4 may comprehend such general observations on the improvement of waste lands as the writer's

experience may lead him to make, but must refer especially to the lands reclaimed—to the nature of the soil—the previous state and probable value of the subject—the obstacles opposed to its improvement—the details of the various operations—the mode of cultivation adopted—and the produce and value of the crops produced. As the required extent cannot be made up of different patches of land, the improvement must have relation to one subject; it must be of profitable character, and a rotation of crops must have been concluded before the date of the Report. *A detailed statement of the expenditure and return and a certified measurement of the ground are requisite.*

5. By the Proprietor or Tenant in Scotland who shall have improved within the ten preceding years the Pasturage of not less than thirty acres, by means of top-dressing, draining, or otherwise, without tillage, in situations where tillage may be inexpedient—The Gold Medal, or Ten Sovereigns. To be lodged by 1st November in any year.

6. By the Tenant in Scotland who shall have improved not less than ten acres within a similar period—The Minor Gold Medal. To be lodged by 1st November in any year.

Reports in competition for Nos. 5 and 6 must state the particular mode of management adopted, the substances applied, the elevation and nature of the soil, its previous natural products, and the changes produced.

### SECTION 3.—HIGHLAND INDUSTRIES AND FISHERIES.

#### FOR APPROVED REPORTS.

1. The best mode of treating native Wool; cleaning, carding, dyeing, spinning, knitting, and weaving by hand in the Highlands and Islands of Scotland—Five Sovereigns. To be lodged by 1st November in any year.

### SECTION 4.—MACHINERY.

#### FOR APPROVED REPORTS.

To be lodged by 1st November in any year.

### SECTION 5.—FORESTRY DEPARTMENT.

#### FOR APPROVED REPORTS.

1. On Plantations of not less than eight years' standing formed on deep peat-bog—The Medium Gold Medal, or Five Sovereigns. To be lodged by 1st November in any year.

The premium is strictly applicable to deep peat or flow moss; the condition of the moss previous to planting, as well as at the date of the Report, should, if possible, be stated.

The Report must describe the mode and extent of the drainage, and the effect it has had in subiding the moss—the trenching, levelling, or other preliminary operations that may have been performed on the surface—the mode of planting—kinds, sizes, and number of trees planted per acre—and their relative progress and value, as compared with plantations of a similar age and description grown on other soils in the vicinity.



## CLASS II.

## DISTRICT COMPETITIONS.

## REGULATIONS 1923.

*Grants in aid of DISTRICT COMPETITIONS for 1924 must be applied for before 1st November 1923, on Forms to be obtained from the Secretary.*

*When a Money Grant has expired, the District cannot apply again for another Money Grant for four years.*

## SECTION I.—GRANTS TO DISTRICT SOCIETIES FOR HORSES, CATTLE, SHEEP, AND PIGS.

1. CLASS OF STOCK—LIMIT OF GRANTS, £340.—The Highland and Agricultural Society will make Grants to District Societies for prizes for *Breeding Animals* of any of the following Classes of Stock, viz. :—

<i>Cattle.</i>	<i>Sheep.</i>
Shorthorn.	Blackface.
Aberdeen-Angus.	Cheviot.
Galloway.	Border Leicester.
Belted Galloway.	Half-Bred.
Highland.	Shropshire.
Ayrshire.	Oxford-Down.
British-Friesian.	Suffolk.
Red Poll.	Wensleydale.
Jersey.	
Shetland.	<i>Pigs.</i>
<i>Horses.</i>	Any Pure Breed.
Draught Horses.	
Hunters.	
Hackneys.	
Ponies.	
Shetland Ponies.	

Cross-bred<sup>1</sup> animals are not eligible. The Prizes must be confined to *Breeding Animals*; "bullocks," "geldings," "wethers," and "hog pigs" are excluded.

2. All Competitions must be at the instance of a local Society. A Committee of Management shall be appointed, and the Convener of the Committee must be a Member of the Highland and Agricultural Society.

3. GRANT TO DISTRICT, £12.—The portion of the Grant to any one District Society shall not exceed the sum of £12 in any one year.

4. ALLOCATION OF GRANT.—The Grant from the Highland and Agricultural Society is not to be applied as a Grant in aid of the Premiums offered by the Local Society, but must be offered in the form of separate Prizes for the Animals chosen; and the Prizes must be announced in the Premium List and Catalogue of the Show as "given by the Highland and Agricultural Society."

<sup>1</sup> *Exceptions to this rule may, however, be authorised by the Board of Directors, on application. The Directors are prepared to consider applications from local Societies which desire to use their grants, or part thereof, as prizes for cross-bred calves and one-year-old cross-bred cattle.*

5. CONTINUANCE OF GRANT THREE YEARS.—The Money Grant shall continue for three alternate years, provided always that the District Society shall, in the two intermediate years, continue the competition by offering Premiums for the same class of Stock as that selected in each previous year to compete for the Highland and Agricultural Society's Prizes. If no competition takes place for two years the Grant expires.

6. When it is agreed to hold the General Show of the Society in any district, no provincial show shall be held in that district in the months of June, July, or August.

7. MEDALS IN INTERMEDIATE YEARS.—In the two alternate years the Highland and Agricultural Society will place three Silver Medals at the disposal of the District Societies, for the same classes of Stock as those for which the Money Premiums are offered, provided that not less than three lots are exhibited in the same class.

8. RULES OF COMPETITION.—The Rules of Competition for the Premiums, the Funds for which are derived from Grants of the Highland and Agricultural Society, shall be such as are generally enforced by the Society receiving the Grant for Premiums offered by itself.

9. AREA AND PARISHES—FIVE PARISHES.—When making application for Grants from the Highland and Agricultural Society, the District Society must delineate the area and the number of parishes comprised in the district, and, *except in special cases*, no District Society shall be entitled to a Grant whose show is not open to at least *five* Parishes.

10. REPORTS.—Blank Forms for Reports will be furnished to the Secretaries of the different District Societies. Both in the years when the Grant is offered and in the two intermediate years, detailed reports of the competition must be given on these Forms and lodged with the Secretary of the Highland and Agricultural Society as soon as possible after the Show, and in no case later than 1st November. These reports are subject to the approval of the Directors of the Highland and Agricultural Society, against whose decision there shall be no appeal. All Reports must be signed and certified as marked in the Form.

11. GRANTS—WHEN PAID.—The Grants made to District Societies will be paid in December after the Reports of the awards of the prizes have been received and found to be in order and passed by the Board of Directors, the Money Grants being paid to the Secretaries of the Local Societies and the Medals sent direct to the winners. *The Secretary of the District Society must not on any condition whatever pay any premium offered by the Highland and Agricultural Society until he has been informed that the awards are in order and has received the Grant from the Highland and Agricultural Society.*

12. RENEWAL OF APPLICATION.—No application for renewal of a Money Grant to a District Society will be entertained until the expiration of *four* years from the termination of the last Grant.

13. DISPOSAL OF APPLICATIONS.—In disposing of applications for District Grants, the Directors of the Highland and Agricultural Society shall keep in view the length of interval that has elapsed since the expiration of the last Grant, giving priority to those District Societies which have been longest off the list.

## DISTRICTS.

### Final Year.

1. YARROW AND ETTRICK PASTORAL SOCIETY.—*Convener*, Walter Barrie, Sandhope, Yarrow; *Secretary*, George Brunton, Harehead, Selkirk. Granted 1913. (In abeyance in 1914 on account of the Hawick Show.) (1915, 1916, 1917, 1918, and 1919—no Show held.),

**2nd Year.**

2. ARGYLL CATTLE SHOW SOCIETY.—*Convener*, Captain John Campbell of Kilberry; *Secretary*, James M'Dougall, South Cliff, Tarbert, Lochfyne. Granted 1910. (In abeyance in 1910—unable to hold a show. In abeyance in 1913 on account of the Paisley Show.) (In abeyance 1914, 1915, 1916, 1917, 1918, 1919, 1920, 1921, and 1922—no Show held.)
3. GIRVAN DISTRICT AGRICULTURAL SOCIETY.—*Convener*, W. K. Bone, Skalloch Park, Girvan; *Secretary*, Jean W. Kennedy, Town Clerk's Chambers, Girvan. Granted 1920. (In abeyance 1921.)
4. FETTERCAIRN FARMERS' CLUB.—*Convener*, W. M. Melvin, Bridgemill, Laurencekirk; *Secretary*, George T. Brown, East Cairnbeg, For-doun. Granted 1921.
5. MAR AGRICULTURAL ASSOCIATION.—*Convener*, R. Littlejohn Barr, The Manse, Kinellar; *Secretary*, Neil Smith, Kinellar, Aberdeenshire. Granted 1921.
6. STRATHAVEN AND DISTRICT AGRICULTURAL EXPOSITION SOCIETY.—*Convener*, Peter Meikle, Avonholme, Strathaven; *Secretary*, John Watson, Newton, Strathaven. Granted 1921.
7. DUMFRIES AGRICULTURAL SOCIETY.—*Convener*, Col. F. J. Carruthers of Dormont, Lockerbie; *Secretary*, David Fergusson, 75 Buccleuch Street, Dumfries. Granted 1920. (In abeyance 1922, on account of Dumfries Show.)

**1st Year.**

8. BUCHAN AGRICULTURAL SOCIETY.—*Convener*, William E. Hutchison of Cairngall, Longside; *Secretary*, James A. Smith, Bank House, Strichen. Granted 1923.
9. CLUNY, MONYMUSK, MIDMAR, AND KENMAY AGRICULTURAL ASSOCIATION.—*Convener*, John B. Hosie, Prospect Cottage, Cluny; *Secretary*, George Rennie, Bank House, Sauchen, Aberdeenshire. Granted 1923.
10. DUNOON AGRICULTURAL SOCIETY.—*Convener*, Duncan C. Whyte, Glenmasson, Kilmun; *Secretary*, John Dobie, Clydesdale Bank, Dunoon. Granted 1923.
11. KILFINICHEN AGRICULTURAL SOCIETY.—*Convener*, C. H. M'Corkindale, Saorphin, Bunessan, Mull; *Secretary*, Duncan Cameron, Bunessan, Mull. Granted 1923.
12. KINCARDINESHIRE FARMERS' CLUB.—*Convener*, Alexander Milne, "Woodbine," Stonehaven; *Secretary*, James B. Connon, 12 Ann Street, Stonehaven. Granted 1923.
13. SKYE AGRICULTURAL SOCIETY.—*Convener*, John Beaton, Farmer, Portree; *Secretary*, George Calder, Bank of Scotland House, Portree. Granted 1923.
14. WIGTOWN AGRICULTURAL SOCIETY.—*Convener*, A. B. Matthews, British Linen Bank, Newton-Stewart; *Secretary*, Gavin Coupland, Newton-Stewart. Granted 1923.

(In Intermediate Year—3 Silver Medals.)

15. LIDDESDALE AGRICULTURAL SOCIETY.—*Convener*, David Ballantyne, Shaws, Newcastleton; *Secretary*, Robert Brown, British Linen Bank, Newcastleton. Granted 1913. (In abeyance in 1914 on account of the Hawick Show.) (1915, 1916, 1917, 1918, 1919, 1920, 1921, and 1922—no Show held.)

16. MOUNT BLAIR AGRICULTURAL SOCIETY.—*Convener*, James M'L. Marshall of Bleaton Hallet, Blairgowrie; *Secretary*, A. Dewar, Kirkmichael, Blairgowrie. Granted 1915. (In abeyance 1915, 1916, 1917, 1918, and 1919—no Show held.)
  17. BUCHLYVIE AND GARTMORE AGRICULTURAL SOCIETY.—*Convener*, James Stewart, Cashley, Buchlyvie; *Secretary*, James Monach, Craignorton, Buchlyvie. Granted 1916. (In abeyance 1916, 1917, 1918, and 1919—no Show held.)
  18. UNITED BANFFSHIRE AGRICULTURAL SOCIETY.—*Convener*, George Walker Cowie of Easter Bo, Fisherie, Turriff; *Secretary*, F. A. Watt, Solicitor, Banff. Granted 1915. (In abeyance 1916, 1917, and 1918—no Show held; 1919, not awarded.) (In abeyance 1920 on account of the Aberdeen Show.)
  19. DALKETH AGRICULTURAL SOCIETY.—*Convener*, Robert S. White, Halkerston, Gorebridge; *Secretary*, James W. Speedy, Braeside, Liberton. Granted 1916. (In abeyance in 1916—no Show held.) (In abeyance in 1917, 1918, and 1919 on account of the Edinburgh Show.)
  20. DUMBARTONSHIRE AGRICULTURAL SOCIETY.—*Convener*, James R. Lumsden of Arden, Arden, Dumbartonshire; *Secretary*, George Lawrence, Union Bank of Scotland Ltd., Dumbarton. Granted 1916. (In abeyance 1916, 1917, 1918, and 1919—no Show held.)
  21. CARNWATH AGRICULTURAL SOCIETY.—*Convener*, Andrew S. Lawson, Guildhouse, Forth, by Lanark; *Secretary*, Andrew T. Morrison, Commercial Bank House, Carnwath. Granted 1920.
  22. NETHER LORN FARMERS' SOCIETY.—*Convener*, Colin L. M'Dougall, Aldertree, Clachan, Seil, by Oban; *Secretary*, Neil MacDougall, Balvicar, Oban. Granted 1920.
  23. LOCKERBIE AGRICULTURAL SOCIETY.—*Convener*, D. J. Bell Irving of Winterhope, Lockerbie; *Secretary*, Thomas Henderson, Solicitor, Lockerbie. Granted 1920.
  24. DUNBLANE AGRICULTURAL SOCIETY.—*Chairman of Directors*, A. H. Anderson, The Firs, Dunblane; *Secretary*, John Stewart, Solicitor, Dunblane. Granted 1921. (In abeyance 1921.)
  25. UPPER DONSDIE AGRICULTURAL SOCIETY.—*Convener*, James Strachan, New Mains, Towie, Glenkindie; *Secretary*, Alexander Y. Robertson, Upper Towie, Glenkindie. Granted 1922.
  26. VALE OF ALFORD AGRICULTURAL ASSOCIATION.—*Convener*, W. A. Mitchell of Auchnagathle, Keig, Whitehouse; *Secretary*, George F. Laing, Mayfield, Whitehouse. Granted 1922.
  27. WESTERN DISTRICT OF MID-LOTHIAN AGRICULTURAL SOCIETY.—*Convener*, G. Gardiner Smith of Linwood, Mid-Calder; *Secretary*, John Mungle, Bank House, West Calder. Granted 1922.
  28. STRATHORD AGRICULTURAL SOCIETY.—*Convener*, William Baxter, Tophead, Stanley; *Secretary*, D. M'Gregor, Rosebank, Bankfoot. Granted 1922.
  29. STIRLING AGRICULTURAL SOCIETY.—*Convener*, Peter M'Intyre, Tighnablaire, Comrie; *Secretary*, Andrew C. Buchanan, 26 Port Street, Stirling. Granted 1922.
- (In Abeyance 1923.)
30. EASTER ROSS FARMERS' CLUB.—*Convener*, James Scott, Fearn; *Secretary*, George D. Gill, Commercial Bank Buildings, Tain. Granted 1914. (In abeyance 1914, 1915, 1916, 1917, 1918, 1919, and 1922—no Show held.)
  31. SUTHERLAND FARMERS' CLUB.—*Convener*, W. J. Dudgeon, Craikaig, Loth; *Secretary*, Charles B. Catto, Drummie, Golspie. Granted 1920.

32. **BLACK ISLE FARMERS' SOCIETY.**—*Convener*, Captain D. Morison, Navity, Cromarty; *Secretary*, John Mann, Bog Farm, Munlochy. Granted 1922.
33. **INVERNESS-SHIRE FARMERS' SOCIETY.**—*President*, W. A. Cumming, Allanfearn, by Inverness; *Secretary*, David Macdonald, 15 High Street, Inverness. Granted 1916. (In abeyance 1917, 1918, and 1919—no Show held.)
34. **AIRD AND STRATHGLASS AGRICULTURAL, HORTICULTURAL, AND INDUSTRIAL SOCIETY.**—*Convener*, James Punton, Tealaggan; *Secretary*, John Campbell, Commercial Bank of Scotland, Beauly. Granted 1921.

#### In 1923.

- No. 1 is in competition for the final year.  
 Nos. 2, 3, 4, 5, 6, and 7 are in competition for the second year.  
 Nos. 8, 9, 10, 11, 12, 13, and 14 are in competition for the first year.  
 Nos. 15, 16, 17, 18, 19, 20, 21, 22, 23, 24, 25, 26, 27, 28, and 29 are in intermediate year and compete for local Premiums. (See Rules 5 and 7.)  
 Nos. 30, 31, 32, 33, and 34 are in abeyance on account of the Inverness Show.

#### SECTION II.—GRANTS TO HORSE ASSOCIATIONS, &c., FOR STALLIONS FOR AGRICULTURAL PURPOSES.

1. The Highland and Agricultural Society will make Grants to Horse Associations and other Societies in different districts engaging Stallions for agricultural purposes. The total sum expended by the Highland and Agricultural Society in such Grants shall not exceed the sum of £210 in any one year.
2. The portion of the Grant to any one Association or Society shall not exceed the sum of £15 in any one year.
3. The Grant will be available only for Stallions which, for the year to which the Grant applies, are Registered in the Register of Certified Draught Stallions published by the Board of Agriculture. (For information regarding the Registration of Stallions, apply to the Secretary of the Board of Agriculture, 4 Whitehall Place, London, S.W.)
4. The Grant will continue for three years provided the Association receiving the Grant shall hire a Registered Stallion in the two intermediate years.
5. In the event of a Horse not being engaged in any one year while the provisions of the Grant are in force, the Grant made by the Highland and Agricultural Society will cease.
6. RULES 2 (Committee and Convener), 10 (Reports), 11 (Time of Payment), 12 (Renewal of Grant), and 13 (Disposal of Applications) applicable to Section 1, shall be applicable to this Section.

#### DISTRICTS.

##### Final Year.

1. **DUNBLANE, DOUNE, AND CALLANDER HORSE-BREEDING SOCIETY.**—*Convener*, John Scrimgeour, Estate Office, Doune; *Secretary*, A. D. MacLaren, Drummorie, Doune, Perthshire. Granted 1919.
2. **MID-ARGYLL AGRICULTURAL SOCIETY.**—*Convener*, J. H. Mathieson, Poltalloch, Kilmartin; *Secretary*, James Lindsay, Solicitor, Ardrihaig. Granted 1919.

## 2nd Year.

3. DUMBARTONSHIRE HORSE-BREEDING SOCIETY.—*Convener*, James Snodgrass, Millig Farm, Helensburgh; *Secretary*, William Davie, 283 Main Street, Alexandria. Granted 1921.
4. GATEHOUSE DISTRICT HORSE-BREEDING SOCIETY.—*Convener*, Fred J. Turner, Cally Estate Office, Gatehouse of Fleet; *Secretary*, D. Y. Veitch, Portville, Gatehouse of Fleet. Granted 1921.
5. STIRLING DISTRICT CLYDESDALE HORSE SOCIETY.—*Convener*, James Rodger, Rochdale Lodge, Bridge of Allan; *Secretary*, Alexander Paterson, Solicitor, Stirling. Granted 1921.

## 1st Year.

6. GIGHA HEAVY HORSE-BREEDING SOCIETY.—*Convener*, Malcolm M'Sporran, Drimyonmore, Gigha; *Secretary*, Isaac Love, The Schoolhouse, Gigha. Granted 1922. (In abeyance 1922—no Stallion.)
7. LOWER DONSIDER HORSE-BREEDING SOCIETY, LIMITED.—*Convener*, Patrick Forbes, Tilltbin, Kintore; *Secretary*, Neil Smith, Kinellar, Aberdeenshire. Granted 1923.
8. SOUTH RONALDSHAY AND BURRAY HORSE-BREEDING SOCIETY.—*Convener*, J. R. Scott, Grutha, South Ronaldshay, Orkney; *Secretary*, George A. Ryrie, Hall of Herston, South Ronaldshay, Orkney. Granted 1923.
9. UPPER NITHSDALE HORSE SOCIETY.—*Convener*, Charles W. Ralston, Dubton, Thornhill; *Secretary*, William Henderson, 1 West Morton Street, Thornhill. Granted 1923.
10. VALE OF ALFORD CLYDESDALE HORSE-BREEDING ASSOCIATION.—*Convener*, William Brown, Silverbank, Banchory; *Secretary*, John Reid, Monaltrie, Alford. Granted 1923.
11. WEST OF FIFE CLYDESDALE ENTIRE HORSE SOCIETY.—*Convener*, Robert Jeffrey, Drumfin, Torryburn; *Secretary*, John B. Tulloch, The Dales, Inverkeithing. Granted 1923.

## Intermediate Year—Grant in Abeyance.

12. CAMPBELTOWN AND SOUTHERN HORSE-BREEDING SOCIETY.—*Convener*, James M'Eachy, Clochkiel, Campbeltown; *Secretary*, John Barbour, Aucharna, Campbeltown. Granted 1920.
13. DEESIDE STOCK IMPROVEMENT SOCIETY.—*Convener*, Sir Thomas Burnett of Crathes and Leys, Crathes Castle, Crathes; *Secretary*, William S. Taylor, South Hirn, Banchory. Granted 1922.
14. ISLAY SMALL LANDHOLDERS' SOCIETY.—*Convener and Secretary*, Robert Cullen, Bridgend, Islay. Granted 1922.
15. STONEHAVEN DISTRICT HORSE-BREEDING ASSOCIATION.—*Convener*, Joseph Hutcheon, Bourtreebush, Newtonhill; *Secretary*, James B. Connon, 12 Ann Street, Stonehaven. Granted 1922.
16. MORAYSHIRE STOCK IMPROVEMENT SOCIETY.—*Convener*, Gordon R. Shiach, of Rosebrae, Elgin; *Secretary*, W. Rose Black, Bank Buildings, Elgin. Granted 1922.
17. SHAPANSEY AGRICULTURAL ASSOCIATION.—*Convener*, James Johnston of Coubister, Orphir House, Orphir, Orkney; *Secretary*, D. I. Kemp, Odinstone, Shapansay, Orkney. Granted 1922.

## In 1923.

Nos. 1 and 2 are in competition for the final year.

Nos. 3, 4, and 5 are in competition for the second year.

Nos. 6, 7, 8, 9, 10, and 11 are in competition for the first year.

Nos. 12, 13, 14, 15, 16, and 17 are in abeyance, and compete for local premiums. (See Rule 4.)

## SPECIAL GRANTS.

## ANNUAL.

- £15 to the Northern Arts and Crafts Society.—*Joint-Secretaries*, Mrs Gordon Cumming, Stoneyfield, and Miss Mary Mackintosh, Raigmore, Inverness. Granted 1922.
- £20 to the Ayrshire Agricultural Association, to be competed for at the Dairy Produce Show at Kilmarnock.—*Chairman of Directors*, Lieut.-Colonel W. T. R. Houldsworth of Kirkbride, Maybole; *Secretary*, John Howie, 58 Alloway Street, Ayr. Granted 1872. (No competition 1914, 1915, 1916, 1917, 1918, and 1919.)
- The British Dairymaids' Association.—*Convener*, Mrs J. H. R. Turnbull, 7 W. Maitland Street, Edinburgh; *Secretary*, Miss Mary B. Baillie, Rosebank, Currie. 1 Minor Gold Medal and 1 Medium Silver Medal for Champion Butter-making Competitions. Granted 1908. (In abeyance 1914, 1915, 1916, 1917, and 1918—no competition.)

## IN ALTERNATE YEARS.—GRANT IN 1923.

- £3 to Orkney.—*Convener*, James Johnston, of Coubister, Orphir House, Orphir, Orkney; *Secretary*, D. B. Peace, jun., Auctioneer, Kirkwall. Granted 1883. (No Show in 1915, 1916, 1917, and 1918.)
- £3 to Sanday, Orkney.—*Convener*, W. Cowper Ward, Scar House, Sanday, Orkney; *Secretary*, James Irvine, Stove Farm, Sanday, Orkney. Granted 1902. (In abeyance 1915, 1916, 1917, and 1918—no Show held.)
- £3 to East Mainland, Orkney.—*Convener*, John Clouston, Graemeshall, Holm, by Kirkwall; *Secretary*, John Tait, Campston, Quoyburray, Kirkwall. Granted 1898. (In abeyance 1917 and 1918—no Show held.)
- £3 to West Mainland, Orkney.—*Convener*, James M. H. Robertson, Lyking, Sandwick, Orkney; *Secretary*, James Wood, Skaill Farm, Sandwick, Stromness, Orkney. Granted 1900. (No Show 1916, 1917, or 1918.)
- £3 to Walls and Hoy Agricultural Society.—*Convener*, Robert Cutt, Melsetter, Stromness; *Secretary*, William Sutherland, The Old Custom House, Longhope, Orkney. Granted 1923 (for three alternate years).
- £3 to Kilmuir (Skye) Show Committee.—*Convener and Secretary*, Alexander McCallum, Estate Office, Uig, Isle of Skye. Granted 1923 (for three alternate years).

## GRANTS IN ABEYANCE, 1923.

- £5 to Shetland Agricultural Society.—*Convener*, J. M. Goudie, Lerwick ; *Secretary*, John Johnston, Laver Leog, Lerwick. Granted 1893. (In abeyance—no Show in 1914, 1915, 1916, 1917, 1918, or 1919.)
- £3 to North Uist Agricultural Society.—*Convener*, Dr M. T. Mackenzie, J.P., Scolpaig, North Uist ; *Secretary*, H. H. Mackenzie, J.P., Balelone, Lochmaddy. Granted in 1915 for 3 alternate years. (In abeyance 1915, 1916, 1917, 1918, and 1919—no Show held.)
- £3 to Rousay, Orkney.—*Convener*, George Gibson, Avelshay, Rousay, Orkney ; *Secretary*, John Harrold, Springfield, Rousay. Granted 1903. (No Show 1915, 1916, 1917, or 1918.)
- £3 to South Ronaldshay and Burray, Orkney.—*Convener*, John Tomison, Halcro, St Margaret's Hope, Orkney ; *Secretary*, George Esson, St Margaret's Hope, Orkney. Granted 1904. (In abeyance 1917 and 1918—no Show held.)

## WOMEN'S RURAL INSTITUTES.

A sum not exceeding £100 in each year will be given in special grants to Federations of Scottish Women's Rural Institutes. The amount of any one grant shall not exceed £10. Any Institute which has received a grant for two consecutive years shall not be eligible to again apply until after the expiry of two years.

- £10 to Rhins Federation of Women's Rural Institutes.—*Convener*, Mrs Edith Tarbett, The Manse, Ardwell ; *Hon. Sec.*, Mrs M. A. L. Menzies, Ardwell, Wigtownshire. Granted 1922.
- £10 to Ayrshire Federation of Women's Institutes.—*Hon. Sec.*, Mrs F. L. Houston-Craufurd, Dunlop House, Dunlop. Granted 1922.
- £10 to Lothians Federation of Women's Rural Institutes.—*President*, Mrs Blair, Hoprig Mains, Gladsmuir ; *Secretary*, Mrs Stewart, Borthwick Castle, Gorebridge. Granted 1923.
- £10 to Stewartry Federation of Women's Rural Institutes.—*President*, Miss Duncan, Danevale, Castle-Douglas ; *Secretary*, Mrs M'Queen, Crofts, Dalbeattie. Granted 1923.

## MEDALS IN AID OF PREMIUMS GIVEN BY LOCAL SOCIETIES.

The Society, being anxious to co-operate with local Associations, will give a limited number of Silver Medals annually to Societies, not on the list of Cattle, Horse, or Sheep Premiums, in addition to the Money Premiums awarded in the Districts, for—

1. Best Bull, Cow, or Heifer of any pure breed included in Section 1.
2. Best Stallion, or Mare of any pure breed included in Section 1.
3. Best Tup, or Pen of Ewes of any pure breed included in Section 1.
4. Best Boar, Sow, or Breeding-Pig of any pure breed.
5. Best Pens of Poultry.
6. Best Sample of any variety of Wool.
7. Best Sample of any variety of Seeds.
8. Best managed Farm.
9. Best managed Green Crop.



10. Best managed Hay Crop.
11. Best managed Dairy.
12. Best Sweet-Milk Cheese.
13. Best Cured Butter.
14. Best Fresh Butter.
15. Best collection of Roots.
16. Best kept Fences.
17. Best Sheep-Shearer.
18. Most expert Hedge-Cutter.
19. Most expert Labourer at Draining.
20. Best Maker of Oat-Cakes.

It is left to the local Society to choose out of the foregoing list the classes for which the Medals are to be competed.

The Medals are granted for two years, and lapse if not awarded in those years.

No Society shall receive more than two Medals in any year.

#### *Aberdeenshire.*

1. CORGARFF, STRATHDON, AND GLENBUCHAT INDUSTRIAL EXHIBITION.—*Convener*, John Tait, Ordgarff, Corgarff; *Secretary*, J. T. Philip, Garchory, Corgarff, Strathdon. 2 Medals. 1923.
2. KINNETHMONT AGRICULTURAL SOCIETY.—*Convener*, G. E. N. Leith Hay, Leith Hall, Kinnethmont; *Secretary*, John Reid, Benview, Kinnethmont. 2 Medals. 1921. (In abeyance 1921—no awards.)

#### *Argyllshire.*

3. TIREE AGRICULTURAL SHOW COMMITTEE.—*Convener*, Hugh Macdiarmid, Island House, Tiree, by Oban; *Secretary*, W. G. Macdiarmid, Island House, Tiree, by Oban. 2 Medals. 1922.
4. MULL AND MORVEN AGRICULTURAL SOCIETY.—*Convener*, J. H. Munro Mackenzie, Calgary, Isle of Mull; *Secretary*, A. A. MacGill, The Clydesdale Bank, Limited, Tobermory. 2 Medals. 1923.

#### *Dumfriesshire.*

5. SANQUHAR FARMERS' SOCIETY.—*Convener*, James Moffat, Gateside, Sanquhar; *Secretary*, W. M. Henderson, Solicitor, Sanquhar. 2 Medals. 1914. (In abeyance 1914, 1915, 1916, 1917, 1918, 1919, 1920, 1921, and 1922—no Show held.)

#### *Haddingtonshire.*

6. UNITED EAST LOTHIAN AGRICULTURAL SOCIETY.—*Convener*, Thomas Elder of Stevenson Mains, Haddington; *Joint-Secretaries*, William Burnet and John Stirling, Solicitors, Haddington. 2 Medals. 1923.

#### *Kirkcudbrightshire.*

7. ST MARY'S ISLE ESTATES AND DISTRICT AGRICULTURAL SOCIETY.—*Convener*, James Phillips, Carse, Kirkcudbright; *Secretaries*, John Gibson and Robert Montgomery, Solicitors, Kirkcudbright. 2 Medals. 1921. (In abeyance 1922—no Show held.)

*Lanarkshire.*

8. BIGGAR FARMERS' CLUB.—*Convener*, A. W. M'Cosh, of Cairnhill House, Airdrie, and Edmonston House, Biggar; *Secretary*, James Boa, Main Street, Biggar. 2 Medals. 1923.
9. SHOTTS CALDERWATERHEAD FARMERS' SOCIETY.—*Convener*, John Weir, Shottsburn, Holytown; *Secretary*, William Good, Home Farm, Hartwood. 2 Medals. 1923.

*Linlithgowshire.*

10. BATHGATE AGRICULTURAL SOCIETY.—*Convener*, James Crawford, Coulsland, Bathgate; *Secretary*, John B. Wood, National Bank, Bathgate. 2 Medals. 1923.

*Perthshire.*

11. MOULIN AGRICULTURAL ASSOCIATION.—*Convener and Secretary*, R. M'Gillewie, Ruanruarie, Killiecrankie. 2 Medals. 1922. (In abeyance 1922—no award.)

*Sutherlandshire.*

12. SUTHERLAND CROFTERS' SHOW SOCIETY.—*Convener and Secretary*, J. M'Callum, Sutherland Estate Office, Golspie. 2 Medals. 1921. (In abeyance 1922—no award.)

*Wigtownshire.*

13. GALLOWAY DAIRY PRODUCE SHOW SOCIETY.—*Convener*, Sir Mark J. M'Taggart Stewart of Southwick, Bart., Dumfries; *Secretary*, Patrick Gifford, 188 King Street, Castle-Douglas. 2 Medals. 1922.

Applications from other Districts must be lodged with the Secretary of the Society by 1st November next.

**RULES OF COMPETITION.**

1. All Competitions must be at the instance of a local Society.
2. The classes for which Medals are granted must be in accordance with the list at page 59. The Committee shall select the classes, and specify them in the Report.
3. A Committee of Management shall be appointed, and the Convener of the Committee must be a Member of the Highland and Agricultural Society.
4. The Money Premiums given in the District must be not less than £2 for each Medal claimed.
5. The Medal for Sheep-Shearing shall always accompany the highest Money Premium.
6. There must not be fewer than three competitors in all the classes.
7. Regarding Reports, despatch of Medals, and application for renewal of Grant, Rules 10 and 11, Section I., will apply.
8. When a grant of Medals has expired, the District cannot apply again for Medals for two years.

### PLOUGHING COMPETITIONS.

The Minor Silver Medal will be given to the winner of the first Premium at Ploughing Competitions, provided a Report in the following terms on the official form is made to the Secretary, within one month of the Competition, by a Member of the Society. Forms of Report to be had on application.

#### FORM OF REPORT.

I, \_\_\_\_\_ of \_\_\_\_\_, Member of the Highland and Agricultural Society, hereby certify that I attended the Ploughing Match of the \_\_\_\_\_ Association at \_\_\_\_\_ in the county of \_\_\_\_\_ on the \_\_\_\_\_ when \_\_\_\_\_ ploughs competed; \_\_\_\_\_ of land were assigned to each, and \_\_\_\_\_ hours were allowed for the execution of the work. The sum of £ \_\_\_\_\_ was awarded in the following proportions, viz. :—

*[Here enumerate the names and designations of successful Competitors.]*

#### RULES OF COMPETITION.

1. All Matches must be at the instance of a local Society or Ploughing Association, and no Match at the instance of an individual, or confined to the tenants of one estate, will be recognised.

2. The title of such Society or Association, together with the name and address of its Secretary, must be registered with the Secretary of the Highland and Agricultural Society, 3 George IV. Bridge, Edinburgh.

3. Not more than one Match in the same season can take place within the bounds of the same Society or Association.

4. All reports must be lodged within one month of the date of the Match, and certified by a Member of the Highland and Agricultural Society who was present at it.

5. A Member can report only one Match; and a Ploughman cannot carry more than three Medals in the same season.

6. To warrant the grant of the Medal there must have been twelve ploughs in Competition, and not less than Three Pounds awarded in Prizes by the local Society. The Medal to be given to the winner of the first prize.

7. The Local Society or Ploughing Association shall decide what class of ploughs shall compete for the Medal, and if so agreed, may offer it for competition to the class of plough most generally in use in the district.

8. The Local Society or Committee, may, if they desire, arrange to let each Ploughman have one person to guide the horses for the first two and the last two furrows, but in no case shall Ploughmen receive any other assistance, and their work must not be set up or touched by others. Attention should be given to the firmness and sufficiency of the work below, more than to its neatness above the surface.

9. The Local Committee is required to fix the time to be allowed for ploughing the portion of land, and they are recommended that the time be at the rate of not more than ten hours per imperial acre on light land, and fourteen hours on heavy or stony land.

NOTE.—The attention of the Directors of the Society has frequently been drawn to certain irregularities which have occurred in connection with the conduct of Ploughing Matches and the completion of the Reports thereon. Complaints have been made (a) that the allotted amount of ground has not been ploughed, within the specified time, by the competitor awarded the first prize; (b) that the Report sent to this Society has been signed by a Member of the Society who was not present at the Match. It has to be pointed out that any infringement of the above Rules by a Local Society or Ploughing Association will render that Society or Association liable, at the discretion of the Board of Directors, to be debarred from receiving the Society's Medals in future.

## HOEING COMPETITIONS.

The Minor Silver Medal will be given to the winner of the first Premium at Hoeing Competitions, provided a Report in the following terms on the official form is made to the Secretary within a month of the Competition by a Member of the Society. Forms of Report to be had on application.

### RULES OF COMPETITION.

1. All Matches must be at the instance of a local Society or Hoeing Association, and no Match at the instance of an individual, or confined to the tenants of one estate, will be recognised.

2. The title of such Society or Association, together with the name and address of its Secretary, must be registered with the Secretary of the Highland and Agricultural Society, No. 3 George IV. Bridge, Edinburgh.

3. Not more than one match in the same season can take place within the bounds of the same Society or Association.

4. All reports must be lodged within one month of the date of the Match, and certified by a Member of the Highland and Agricultural Society who was present at it.

5. A Member can only report one Match ; and same Competitor cannot carry more than three Medals in the same season.

6. To warrant the grant of the Medal there must have been twelve hoes in Competition, and not less than Three Pounds awarded in prizes by the local Society. The Medal to be given to the winner of the first prize.

7. The time to be allowed to be decided by the local Committee, but in no case to exceed two hours for two drills of 100 yards each, the third drill being unoccupied, so that Competitors do not interfere with their neighbour's work.

8. Competitors must finish their work as they go along—no turning back or after-dressing allowed. Handpicking or transplanting shall be strictly prohibited.

9. A Committee shall be appointed to watch the work, and any Competitor found transplanting or otherwise not complying with the Rules shall have his number withdrawn, and be debarred from receiving any prize which might otherwise have been awarded to him.

NOTE.—Medals will be awarded under similar conditions for Competitions in hand-singling.

## LONG SERVICE CERTIFICATES AND MEDALS.

Certificates and Medals for long service are awarded by the Society to farm servants, male or female, having an approved service of not less than thirty years—(a) with one employer on the same or different holdings ; (b) on the same holding with different employers. These Certificates and Medals will be issued as applications are received.

Forms to be obtained from the Secretary.

War Service to count towards the time required for qualification, where farm servants have returned to same service or employment with same farmer or his family.

## CLASS III.

## COTTAGES AND GARDENS.

The following Premiums are offered for Competition in the Parishes after mentioned.

The Premiums are granted for two years.

## PREMIUMS FOR BEST KEPT COTTAGES AND GARDENS.

1. Best kept Cottage	.	.	.	.	.	£1	0	0
Second best	.	.	.	.	.	0	10	0
2. Best kept Cottage Garden	.	.	.	.	.	1	0	0
Second best	.	.	.	.	.	0	10	0

## RULES OF COMPETITION.

1. Competitions may take place in the different parishes for Cottages and Gardens, or for either separately.

2. The occupiers of Lodges at Gentlemen's Approach Gates and Gardeners' Houses are excluded, as well as others whom the Committee consider, from their position, not to be entitled to compete. The inspection must be completed by the 1st of October. In making the inspection, the Conveners may take the assistance of any competent judges.

3. It is left to the Committee of the District to regulate the maximum annual rent of the Cottages, which may, with the garden, be from £5 to £7.

4. To warrant the award of full Premiums, there must not be fewer than three competitors in each class. If there are less than three competitors in each class, only half Premium will be awarded.

5. A person who has gained the highest Premium cannot compete again.

6. If the Cottage is occupied by the proprietor, the roof must be in good repair; if the roof is thatch, it must be in good repair, though in the occupation of a tenant. The interior and external conveniences must be clean and orderly; the windows must be free of broken glass, clean, and affording the means of ventilation. Dunghills, and all other nuisances, must be removed from the front and gables. In awarding the Cottage Premiums, preference will be given to Competitors who, in addition to the above requisites, have displayed the greatest taste in ornamenting the exterior of their houses, and the ground in front and at the gables.

7. In estimating the claims for the Garden Premiums, the judges should have in view—the sufficiency and neatness of the fences and walks; the cleanness of the ground; the quality and choice of the crops; and the general productiveness of the garden.

8. Reports, stating the number of Competitors, the names of successful parties, and the nature of the exertions which have been made by them, must be lodged with the Secretary of the Highland and Agricultural Society *on or before the 1st November next*.

9. When a grant of Money has expired, the District cannot apply again for aid for four years.

Parishes desirous of these Premiums must lodge applications with the Secretary *on or before the 1st November next*.

(No Money Grants offered in 1923.)

### MEDALS FOR COTTAGES AND GARDENS, OR GARDEN PRODUCE, POULTRY, AND BEE-KEEPING.

1. The Society will give annually one or two Minor Silver Medals to a limited number of local Associations or individuals, who establish Competitions and Premiums for Cottages, Gardens, Garden Produce, or Bee-Keeping. The Medals will be granted for two years.

2. The Medals may be offered in any two of the following sections, *but under no circumstances will the two Medals be given in one of the sections:—*

(1) Best kept Cottage or best kept Cottage and Garden. (One Medal only.)

(2) Best kept Garden. (One Medal only.)

(3) Best Collection of Garden Produce—Flowers excluded. (One Medal only.)

(4) Best Pen of Poultry.

(5) Honey. (One Medal only.)

3. The annual value of each Cottage, with the ground occupied in the parish by a Competitor, must not exceed £15. The occupiers of Lodges at Gentlemen's Approach Gates, and Gardeners in the employment of others, are not entitled to compete.

4. If Competition takes place for Garden Produce, such produce must be *bona fide* grown in the Exhibitor's Garden. He will not be allowed to make up a collection from any other Garden. The produce must consist of Vegetables, or Vegetables and Fruit (not Fruit alone). Flowers are excluded.

5. The Honey must be the produce of the Exhibitor's own Hives.

6. To warrant the award of a Medal, there must not be fewer than three Competitors.

7. Blank forms for Reports of Competitions will be furnished to the Secretaries of the different Districts. These must, in all details, be completed and lodged with the Secretary of the Highland and Agricultural Society as soon as possible after the Show, and in no case later than *1st November*, for the approval of the Directors, against whose decisions there shall be no appeal.

8. When a grant of Medals has expired, the District cannot apply again for aid for two years, and if no competition takes place in a District for two years the grant expires.

9. Applications for these Medals must be made *before 1st November next*.

#### *Fifeshire.*

1. NEWBURGH GARDENING SOCIETY.—*Convener*, Andrew Kay, Hillside Cottage, Newburgh; *Secretary*, David M. Adamson, High Street, Newburgh. 2 Medals. 1916. (In abeyance 1916, 1917, 1918, 1920, 1921, and 1922—no Show held.)

#### *Morayshire.*

2. MORAYSHIRE FARMERS' CLUB.—*Convener and Secretary*, W. Rose Black, Bank Buildings, Elgin. 2 Medals. 1922.

#### *Perthshire.*

3. BRACO HORTICULTURAL SOCIETY.—*Convener*, John Forbes, Elm Grove, Braco; *Secretary*, Duncan Farquharson, Keir Terrace, Braco. 2 Medals. 1915. (In abeyance 1915, 1916, 1917, 1918, 1920, 1921, and 1922—no Show held.)

*Renfrewshire.*

4. INVERKIP, WEMYSS BAY, AND SKELMORLIE HORTICULTURAL SOCIETY.—*Convener*, John Wilkinson, West Park, Skelmorlie; *Secretary*, Donald M'Alpine, North Lodge, Ardgowan, Inverkip. 2 Medals. 1923.
5. LOGIEALMOND AND GLENALMOND.—*Convener*, Alexander Duncan, Drummond Park, Chapelhill, by Methven; *Secretary*, James E. Adamson, Schoolhouse, Logiealmond. 2 Medals. 1922.

*Stirlingshire.*

6. POLMONT HORTICULTURAL SOCIETY.—*Convener*, David Robinson, Ashbank, Polmont Station; *Secretary*, R. W. Copland, Kirkland Cottage, Polmont. 2 Medals. 1922.

**FIRST EDITION.]**

**NOTE.—From 11th till 19th July all communications should be addressed to “The Secretary, Secretary’s Office, Showyard, Inverness.”**

*Address for Telegrams—“SOCIETY,” EDINBURGH.*  
*Telephone No.—CENTRAL 3855.*

# HIGHLAND AND AGRICULTURAL SOCIETY OF SCOTLAND

---

## GENERAL SHOW OF STOCK AND IMPLEMENTS INVERNESS

17TH, 18TH, 19TH, AND 20TH JULY 1923.

---

### *LAST DAYS OF ENTRY.*

IMPLEMENTS AND OTHER ARTICLES—Monday, 7th May.

CATTLE, HORSES, SHEEP, GOATS, AND PIGS—Thursday, 31st May.  
*(Separate Form for EACH Entry.)*

POULTRY, DAIRY PRODUCE, BEE APPLIANCES, HONEY, WOOL, RURAL INDUSTRIES, AND HORSE-SHOEING—Thursday, 31st May.

No Entry at ordinary fees taken later than those which are received at the Society’s Office, Edinburgh, by first post, or 10 o’clock, on Friday morning (1st June). Late Entries for Cattle, Horses, Sheep, Goats, and Pigs taken on payment of 10s. additional for each entry (Poultry, Dairy Produce, Bee Appliances, Honey, Wool, Rural Industries, and Horse-shoeing at double fees) till Wednesday morning (6th June) at the Society’s Office, Edinburgh, at 10 o’clock.

---

*President of the Society.*

THE MACKINTOSH OF MACKINTOSH.

*Chairman of the Board of Directors.*

SIR HUGH SHAW STEWART, BART., C.B.

*Condenser of the Local Committee.*

SIR KENNETH MACKENZIE OF GAIRLOCH, BART.

---

The District connected with the Show comprises the Counties of Caithness, Moray, Inverness, Nairn, Orkney and Shetland, Ross and Cromarty and Sutherland.



## REGULATIONS.

## GENERAL CONDITIONS.

1. The Competition, except where otherwise stated in the Premium List, is open to Exhibitors from all parts of the United Kingdom.
- Entries.* 2. Every Lot must be intimated by a Certificate of Entry, lodged with the Secretary *not later than Monday, 7th May, for Implements and other Articles, and Thursday, 31st May, for Stock, Poultry, and Dairy Produce, &c.* No Entry taken at ordinary fees later than those which are received at the Society's Office by first post, or 10 o'clock, on Friday morning, 1st June. Late Entries for Cattle, Horses, Sheep, Goats, and Pigs taken on payment of 10s. additional for each entry (Poultry, Dairy Produce, Bee Appliances, Honey, and Wool at double fees) till Wednesday morning (6th June), at the Society's Office, Edinburgh, at 10 o'clock. Printed forms of Entry will be issued on application to the Secretary, No. 3 George IV. Bridge, Edinburgh. Admission Orders for Exhibits and Attendants will be forwarded to Exhibitors, by post, previous to the Show.
- Licences for moving Stock.* 3. This Premium List is published and the Show will be held subject to any Orders that may be issued by the Ministry of Agriculture or Local Authorities. Any licences that may be required for the movement of Stock into or away from the Show must be obtained by Exhibitors. For these licences, application should be made to the Chief Constable, Inverness.
- Diseased Animals.* 4. Animals suffering from any form of infectious or contagious disease—including ringworm or other form of infectious or contagious skin ailment—must not be brought to the Show. Those infringing this Rule shall be liable to a fine of 40s., and to have their Stock removed.
- Fees to accompany Entries.* 5. No Entry can be received or recorded unless it is accompanied by the necessary fees, and complies fully with the Regulations in the Premium List, the Secretary being empowered to return entries sent without the necessary fees.
- Particulars of Entries.* 6. The Schedule of Entry must be filled up so far as within the knowledge of the Exhibitor. The Society shall have power at any time to call upon an Exhibitor to furnish proof of the correctness of any statement in his entry.
- Name of Breeder.* 7. The name of the Breeder, if known, must be given, and if the Breeder is not known, a declaration to that effect, signed by the Exhibitor, must be made on the Entry Schedule, and no pedigree will be entered in the Catalogue when the Breeder is unknown.
- No substitution of Animals.* 8. All animals, except calves, foals, and lambs shown with their dams, must be entered in the classes applicable to them, and cannot be withdrawn after entry, or other animals be substituted in their place.
- One Class only.* 9. For prizes given by the Society, no animal shall be allowed to compete in more than one class, or to compete in any class except that prescribed for animals of its pedigree and description; but this Rule does not apply to the Jumping and Harness Classes.
- Ownership.* 10. All stock exhibited at the Show, except where otherwise stated in the Premium List, must be, at the time of entry, the *bona fide* property of the Exhibitor in whose name it is entered.
- Responsibility for Entries.* 11. Exhibitors are alone responsible for the accuracy and eligibility of their entries. The recording of an entry or the admission of the exhibit to the Showyard will not relieve the Exhibitor of this responsibility. The entry-fee paid for an animal entered in a class for which it is not eligible is not returnable.

12. The Society shall not be liable for any loss or damage which Stock, Poultry, Dairy Produce, &c., Implements, or other articles may sustain at the Show, or in transit. *Society not liable.*

13. The Society reserve to themselves the right of refusing, cancelling, or prohibiting the exhibition of entries from any person who, after 1st January 1904, has been expelled from the membership of any Agricultural or Dairy Society, or who may have been prohibited, suspended, or disqualified from making entries or exhibiting at the Show or Shows of any Agricultural or Dairy Society or Breed Society in consequence of having attempted to obtain a Prize by giving a false Certificate, or by other unfair means, or who is under exclusion from any Breed Society for fraudulent practices. *Disqualified Exhibitors.*

14. When an animal has previously been disqualified by the decision of any Agricultural or Breed Society in the United Kingdom, such disqualification shall attach, if the Exhibitor, being aware of the disqualification, fail to state it, and the grounds thereof, in his entry, to enable the Directors to judge of its validity. *Animal Disqualified.*

15. Any artificial contrivance or device of any description found on or proved to have been used on an animal, either for preventing the flow of milk or for any other improper purpose, will disqualify that animal from being awarded a Premium, and the Owner of said animal may be prohibited from again entering Stock for any of the Society's General Shows, for such a period as the Directors may see fit. *Tampering with Animals.*

16. Horses shall not be blindfolded while being shown in the Ring. *Blindfolding Horses.*

17. The Society further reserve to themselves the right of refusing any entries they may think fit to exclude, or to cancel any entry made, or to prohibit the exhibition of any entry. *Rejecting Entries.*

18. Stock entered for competition, and actually in the Show, is subject to the control and under the orders of the Stewards, Secretary, and other Show officials of the Society, and such stock may not be withdrawn from competition without the consent of the Stewards or Secretary. *Control of Exhibits.*

19. Persons making insulting remarks to, or in any way unduly interfering with, the Judges, Stewards, or other officials while in the performance of their duties, and all Exhibitors or others in charge of stock while in the judging rings refusing to accept or display tickets, rosettes, &c., awarded by the Judges, and handed to them by the Stewards or other officials, or tearing up tickets, rosettes, &c., so awarded and handed to them, or indulging in any similar conduct, shall be considered guilty of misconduct, and shall be dealt with under these rules. *Improper Conduct.*

20. All persons in charge of stock or other exhibits, and all persons admitted into the Showyard, shall be subject to the rules of the Society, and shall obey the orders of the Stewards, Secretary, and other officials of the Society. Exhibitors shall be answerable for the conduct of their servants or representatives. *Subject to Orders.*

21. The Stewards and other officials have power to enforce the regulations of the Society in their different departments. *Power of Officials.*

22. A protest having reference to exhibits at the Show may be lodged by any person having interest. Protests having reference to competitions which take place on the first day of the Show must be lodged in writing with the Secretary at his Office in the Showyard not later than 9 A.M. on Wednesday, the second day of the Show, and parties must be in attendance at the Secretary's Office in the Showyard at 9.30 A.M. that day, when protests may be disposed of. Protests relating to competitions taking place after the first day of the Show must be lodged before 5 P.M. on the day on which the particular exhibition takes place. Each protest must state specifically the grounds of objection, and must be accompanied by a deposit of £2, 2s., which deposit may, if the objection be proved frivolous to the satisfaction of the Directors, be forfeited. Protests may be lodged at any time by Directors, *Protests.*

and in this case no deposit will be required. Protests will be heard and determined by the Directors. Protests on veterinary grounds not received.

*Penalties  
for  
Offences.*

23. The violation of any one of the regulations, or disobedience of the orders of the Directors, Stewards, Secretary, or other officials of the Society, shall render the offending person liable to the forfeiture of all premiums awarded to him, or of such a portion as the Directors may ordain, and also liable to be expelled from the membership of the Society, and disqualified from again, or for a certain number of years, exhibiting at the Shows of the Society, or to have his case disposed of by fine or otherwise as the Directors may determine.

*Final  
Authority.*

24. The decision of the Directors shall, in every matter arising at or in connection with the Show, be final; and every person present at the Show, whether as a Judge, Exhibitor, Visitor, or otherwise, shall be deemed thereby to have agreed to refer the subject-matter of such decision to the final determination of the Directors to the exclusion of all Courts of Law.

*Intimating  
Decisions.*

25. All decisions under these rules may, along with the names and addresses of the persons against whom such decisions have been pronounced, be communicated by the Secretary of this Society to the Secretaries of all Agricultural or Dairy Societies holding open Shows in the United Kingdom, and to the Secretaries of all Breed Societies in the United Kingdom, and may be published in the Annual Reports of this Society, and in such newspapers or journals as the Directors may determine; and every Exhibitor competing at the Show, and every person present at the Show, whether as a Director, Member of Committee, Steward, Judge, Exhibitor, Visitor, or otherwise, shall be deemed thereby to have consented to such communication and publication.

*Former  
Winners.*

26. An animal to which a first Premium has been awarded, even if it should not qualify for that Premium, or an animal which subsequently becomes entitled to a first Premium, at a General Show of the Society, cannot again compete in the same class, notwithstanding any alteration in the heights stated for such class, but may be exhibited as Extra Stock.

*Herd-  
books.*

27. Shorthorn, Aberdeen-Angus, Galloway, Highland, British Friesian, Red Poll, and Belted Galloway cattle must be entered in the herd-books—Ayrshire Cattle in the herd-book or any Appendices thereto—or the Exhibitor must produce evidence that his animal is eligible to be entered therein.

*Height of  
Horses.*

28. All Horses or Ponies entered in classes in which a particular height is stated shall, before being judged, be measured with their shoes on. No subsequent measuring or alteration of shoes will be permitted.

*Weight of  
Shoes.*

29. Exhibitors of Hackney and Harness Horses shall be required to adhere to the Rules and Regulations of the Hackney Horse Society with regard to the weight of shoes on their exhibits, the Society's Veterinary Inspector being instructed to examine all the Hackneys and Harness Horses on the opening morning of the Show, and see that the following Rules as to the weight of shoes are attended to—viz., (a) For Hackneys exceeding 14 hands (except Hackney yearling colts and Hackney yearling fillies), no shoe (nails included) may exceed 2 lb. in weight; (b) for Ponies not exceeding 14 hands, Hackney yearling colts and Hackney yearling fillies, no shoe (nails included) may exceed 1½ lb. in weight.

*Overfeed-  
ing.*

30. Breeding Stock must not be shown in an improper state of fatness, and the Judges are requested not to award Premiums to overfed animals; and no Cattle or Sheep which after the age of twelve months have been exhibited as Fat Stock at any Show are eligible to compete in the Breeding Classes for the Society's Prizes.

*Sires.*

31. Aged Bulls and Stallions must have had produce, and, along with two-year-old Bulls, three-year-old Colts, and two-shear and aged Tup's, have served within the twelve months immediately preceding the Show.

*Calving of  
Cows.*

32. Except as may be otherwise specially provided in this Premium List, cows of all breeds (other than Ayrshire, British Friesian, and Red Poll) must

have had a calf within nine months previous to the Show, and when exhibited must be in milk. Cows of the Ayrshire, British Friesian, and Red Poll breeds must have had a calf within fifteen months previous to the Show. Animals of any age that have had a calf must be shown as Cows.

33. Two-year-old Heifers of the Shorthorn, Aberdeen-Angus, Galloway, British Friesian, Red Poll, and Belted Galloway breeds, two-year-old Yeld Ayrshire Heifers, and three-year-old Highland Heifers, must be in calf when exhibited, and the Premiums will be withheld till birth be certified, which must be within nine months after the Show. *In-calf Heifers.*

34. A Mare entered in a class for "Mares with foal at foot" must have produced a foal after 1st January of the year of the Show, must have regularly nursed her own or another foal, and must have the foal with her in the Show. If the mare's own foal is alive it must be the foal shown with the mare. In the case of a Mare that has not foaled before the Show, or whose foal has died, she shall, if not in milk, be eligible without further entry to compete among the Yeld Mares if a corresponding class for Yeld Mares be included in the Premium List. Draught Yeld Mares must produce a foal within twelve months from the first day of the Show. A Mare in a class for "Mares or Geldings" may or may not have had a foal in the year of the Show, but shall not have her foal exhibited with her, nor be in milk at the time of the Show. *Mares.*

35. All Sows farrowed prior to the year before the Show must have produced a litter of pigs in the year of the Show before the opening day. Sows farrowed in the year prior to the year of the Show must either have produced a litter of pigs before the Show, or produce a litter within three months of the last day of the Show. Certificates of the date of farrowing must be supplied in every case. *Sows.*

36. With reference to Regulation 33, birth of a live or full-time calf must be certified; and in regard to Regulation 34, birth of at least a nine months' foal; or in the case of the death of the dam, a Veterinary Surgeon's certificate must be produced certifying that at the time of death the animal was so far advanced with calf or foal that if it had lived it would have produced a calf or foal within the periods stated in Rules 33 and 34. Certificates required by the foregoing Regulations will be issued after the Show, and must reach the office of the Secretary as follows: calving certificates within ten months, farrowing certificates within four months, and foaling certificates within thirteen months, of the last day of the Show. In default of this, the animal will be regarded as having failed to fulfil the Regulations, and the prize will therefore pass to the animal next in order of merit or be forfeited. *Calves and Foals. Calving, Farrowing, and Foaling Certificates.*

37. Except when otherwise provided, the awards of Special Prizes shall not be subject to the Regulations as to calving and foaling. *Special Prizes.*

38. The Premiums awarded, except those withheld till birth of calf or foal or litter of pigs is certified, will be paid as soon after the Show as practicable, and, with the exception of the Tweeddale Gold Medal, Special Cups, and Medals, may be taken either in money or in plate. *Payment of Prizes.*

39. No Stallion or entire Colt, two years old or upwards, shall be allowed to compete for any of the Society's Prizes unless it has previously been licensed for stud purposes during the current year by the Board of Agriculture for Scotland, the Ministry of Agriculture and Fisheries, or the Irish Department of Agriculture. *Veterinary Examination of Stallions and Colts.*

40. Judges are particularly requested to satisfy themselves, as far as possible, regarding the soundness of all Horses before awarding the Prizes, and to avoid giving Prizes to animals showing symptoms of hereditary disease. The Judges may consult the Society's Veterinary Surgeon if they deem it expedient. Private accommodation is provided for the examination of horses by the Veterinary Surgeon. No protests on veterinary grounds will be received. *Soundness of other Horses. Accommodation for examination.*

- Ewes.** 41. Every Ewe must have given birth to and reared a lamb in the year of the Show; and Ewes of the Blackface and Cheviot breeds must be in milk, and have their lambs at foot.
- Milking.** 42. Animals in milk of the Dairy breeds must be milked dry at 6 o'clock on the evening previous to the opening of the Show in the presence of, and to the satisfaction of, the Steward of Cattle or a representative of the Society duly authorised by him. Animals arriving after six o'clock will be milked dry at the time of arrival.
- Clipping.** 43. Sheep must have been clipt bare after the first day of the November preceding the Show, no part of the animal to be clipt prior to that date—this Rule not to apply to Cheviot Sheep.  
No Blackface Sheep shall be eligible which has not been clipt bare on or after the 1st April of the year of the Show.
- Colouring, &c., of Sheep.** 44. The Steward of Sheep, who can call in assistance if so desired by him, shall have full power to disqualify any pen of Blackface, Cheviot, Border Leicester, and Half-bred Sheep which he considers unnaturally coloured, or when the fleece, face, or legs have been dealt with by the use of foreign substances.
- Flock Books.** 45. All Oxford Down and Suffolk Sheep shown must be entered or eligible for entry in the Oxford Down and Suffolk Flock Books respectively.
- Poultry.** 46. In Poultry the Aged Birds must have been hatched previous to, and Cockerels and Pullets in, the year of the Show.
- Railway Passes.** 47. Railway Certificates for Stock are issued to Exhibitors before the Show along with their Tickets of Admission, one Certificate for the outward and another for the return journey being sufficient for each Exhibitor for any number of exhibits (see page 80).
- Admission of Stock.** 48. Poultry and Stock will be admitted on Monday, the day before the opening of the Show, and, with the exception of Horses, must be in the Yard before 12 o'clock that night. Horses must be in before 8 o'clock on the morning of Tuesday, except those entered in classes for which other times for arrival are elsewhere stated in this List. Judging begins at 9.30 A.M. on Tuesday. Exhibited on Tuesday, Wednesday, Thursday, and Friday. Stock may be admitted on the Saturday preceding the Show, but only by sending two days' prior notice to the Secretary's Office in the Showyard.
- Parades.** 49. Horses and Cattle must be paraded at the times stated in the Programme of the Show, and when required by the Stewards, and under their direction. Females of the Highland Cattle breed will, on this occasion, be paraded at the option of the exhibitor. In Parade, Horses must be ridden or led as provided in their respective classes. Prize and commended Cattle and Horses will receive two rosettes each, which must be attached to the head of the animal, one on each side. Attendants must be beside their animals *twenty minutes before the hour of Parade*, and be ready to proceed to the ring immediately on receiving the order of the Stewards. Infringement of this Rule, or failure of any attendant to obey the orders of the Society's officials, will render the Exhibitor liable to a fine of 20s. for each separate infringement or act of disobedience, and to the forfeiture of any or all of the Prizes awarded to him at this Show.
- Responsibility of Exhibitors.** 50. Exhibitors shall be answerable for all acts, whether committed by themselves, their servants, or others in charge of their Stock, and shall be responsible for the condition of their animals during the whole time they remain in the Showyard.
- Moving from stalls.** 51. No animal shall be taken out of its stall after 10 A.M. during the Show except by order of the Stewards, or with permission of the Secretary.
- Washing Cattle.** 52. Cattle shall not be taken out of their stalls to be washed after the Judging has commenced. Cattle must not be washed beside the Judging Rings. Those infringing this Rule shall be liable to a fine of 10s.
- Soaping prohibited.** 53. Soap or other adhesive material must not be used in dressing cattle or horses. Infringement of this Rule will render the animal upon which the material is used liable to be disqualified.

54. Loose-boxes will be provided for all horses; covered accommodation for other live stock. Stalls for nurse cows charged at ordinary rates. Boxes (floored) for attendants on Cattle, Horses, Sheep, Goats, and Pigs will be provided at a charge of 40s. for each box for members; 50s. for non-members. (See Rule 79.) *Loose-boxes and Stalls.*

55. Exhibitors requiring the boxes, stalls, or pens for their animals to be floored must give instructions, stating the Catalogue No., to the Society's Showyard Erector, Mr John Reid, Showyard, ten days before the Show opens. (For charges, see Rule 78.) *Floored boxes and stalls for Animals.*

56. Bulls must be secured by nose-rings, with chains or ropes attached, or with strong halters and double ropes. All Cattle, other than Highland Cattle, must be tied in their stalls. *Securing Cattle.*

57. During the time the Show is open to the public no rug shall be hung up so as to conceal any animal in a horse-box or stall, except with the special permission of the Steward of that department. *Concealing Animals.*

58. Five days' supply of straw, hay, grass, and tares will be provided free by the Society. Any additional fodder or other kinds of food required will be supplied at fixed prices in the Forage-yard. The Forage-yard will close at 1.30 p.m. on Friday, the last supply to be given to attendants then; and if any extra supply is required on account of stock remaining in the Yard after the close of the Show, notice must be given to the Forage Steward not later than 5 o'clock on Thursday. Any servant removing bedding from an adjoining stall will be fined in double the amount taken. Exhibitors may fetch their own cake or corn to the Yard, but not grass, tares, hay, or straw. Coops, food, and attendance for Poultry will be provided by the Society. *Fodder.*

59. Servants in charge of Stock must bring their own buckets or pails, and a piece of rope or sheep-net to carry their forage. Mangers, and sheep and pig troughs, will be provided. *Feeding appliances.*

60. Sawdust must not be used as bedding for Stock.

*Sawdust.*

61. As the command of water in the Yard is limited, it is particularly requested that waste be avoided.

*Water.*

62. No lights allowed in the Yard at night, and Smoking is strictly prohibited within the Sheds. Those infringing this Rule shall be liable to a fine of 10s. The gates will be closed at midnight, and no person shall be allowed to enter or leave the Yard between that time and 5 A.M. without a special permit. *Lights and Smoking.*

*Closing of Gates.*

63. Stock or Poultry cannot be removed from the Yard till 5 p.m. on Friday, the last day of the Show, except on certificate by the Veterinary Surgeon employed by the Directors, countersigned by the Steward of the department or the Secretary. *Removal of Stock.*

64. At the close of the Show on Tuesday, Wednesday, and Thursday, horses may be withdrawn for the night on a deposit of £5 for each animal, which shall be forfeited, along with any prize money it may have gained, if the animal is not brought back. They must return between 7 and 7.30 the following morning, and those not in before 8 shall forfeit 10s. Horse passes to be applied for at the Secretary's Office between 5 and 6 p.m. on Tuesday, and the deposit, unless forfeited in whole or in part, will be returned between 12.30 and 2.30 on Friday. *Withdrawal of horses over night.*

65. When the Stock is leaving the Yard, no animal is to be moved till ordered by those in charge of clearing the Yard. Those transgressing this Rule shall be liable to a fine of 10s., and to be detained till all the other Stock is removed. *Order in removal.*

66. Poultry may be penned before the opening and removed at the close of the Show by Exhibitors themselves or their representatives. In the event of neither the Exhibitor nor an authorised representative of the Exhibitor being present to pen or remove Poultry, the birds will be penned and removed by men hired and paid by the Society, but this will be done on the understanding that the men are hired to do the work on *Penning and removing Poultry.*

behalf of Exhibitors, and solely at their risk, and that the Society will be in no way responsible for expenses incurred or loss of or injury to Exhibits by errors or accidents in penning, despatching, or conveying Exhibits.

*Closing of  
Poultry  
Shed to  
Public.*

67. On the opening day of the Show the Poultry Shed will be closed to the public during the Judging. On the last day of the Show the Poultry Shed will be closed to the public at 4 P.M.; at 5 P.M. Exhibitors or their representatives will be admitted to the Shed to remove Exhibits, provided the Exhibitor has, *not later than 11 A.M. on the last day of the Show*, given written notice to the Secretary to the effect that the Exhibitor or the Exhibitor's representative will attend at the Poultry Shed at 5 P.M. to remove the birds.

### JUDGING STOCK AND POULTRY.

*Opening  
Gates.*

68. On Tuesday, the first day of the Show, no person will be admitted, except Servants in charge of Stock, till 8 A.M., when the Gates are opened to the public.

*Judging.*

69. The Judges will commence their inspection at 9.30 A.M. The spaces reserved for the Judging will be enclosed, and no encroachment shall be permitted.

*Insufficient  
merit.*

70. In no case shall a Premium be awarded unless the Judges deem the animals to have sufficient merit; and where only one or two lots are presented in a class, and the Judges consider them unworthy of the Premiums offered, it shall be in their power to award a lower prize.

*Commendations.*

71. In addition to the Premiums, the Judges may award **one** Very Highly Commended, **one** Highly Commended, and as many Commended tickets in each class as they consider justified by the number and merit of the entries.

*Ayrshire,  
British  
Friesian,  
and Red  
Poll Cows  
and  
Heifers.  
Attending  
Members  
duties.*

72. Ayrshire, British Friesian, and Red Poll Cows which have not calved before the Show, whether entered in a class for Cows in Milk or for Cows in Calf, shall be judged along with the Cows in Calf, and Ayrshire, British Friesian, and Red Poll Cows or Heifers which have calved before the Show—in whichever of the classes entered—shall be judged along with Cows in Milk.

73. Attending Members will accompany each section of the Judges. It will be the duty of Attending Members to bring the animals out to the Judges and to see that no obstruction is offered to them, and that the space reserved for them is not encroached upon; to ticket the prize animals; to send the Nos. of the prize animals to the Award Lectern near the Secretary's Office; to assist the Judges in completing their return of awards; and should any difficulty arise, to communicate with the Stewards or Secretary.

74. It shall not be competent for any Exhibitor, nor for his Factor or Land-Steward, to act as a Judge or attending Member in any class in which he is competing.

### DAIRY PRODUCE.

75. Dairy Produce will be received in the Showyard on Monday, the day before the opening of the Show, and till 8 A.M. on Tuesday, the first day of the Show. Judged at 9.30 A.M. on Tuesday. Exhibited Tuesday, Wednesday, Thursday, and Friday.

*Placing  
and re-  
moving  
Dairy  
Produce.*

76. Dairy Produce must have been made on the Exhibitor's farm in the year of the Show. No Exhibitor shall show more than **one** lot in each class. Exhibits of Dairy Produce may be placed before the opening and removed at the close of the Show by Exhibitors themselves or their representatives. In the event of neither the Exhibitor nor a person with written authority from the Exhibitor being present to place or remove exhibits, they will be placed and removed by men hired and paid by the Society, but this will be done on the understanding that the men are

hired to do the work on behalf of Exhibitors, and solely at their risk, and that the Society will be in no way responsible for expenses incurred or loss of or injury to exhibits by errors or accidents in placing, despatching, or conveying exhibits. In the case of exhibits which are not removed by 5.30 p.m. on the closing day of the Show, the Society will hold itself at liberty to hand them over to the railway companies for despatch to the respective Exhibitors.

### STALL RENT (INCLUDING ENTRY FEE).

77. The Stall Rents (which include Entry Fees) as stated opposite the individual Classes in this List, shall be paid by Exhibitors when making their Entries. The Secretary is instructed to return entries sent without the necessary fees. *Stall Rent.*

### FLOORED BOXES AND STALLS.

78. Exhibitors desiring the boxes, stalls, or pens for their animals to be floored can have this done by giving instructions, stating the Catalogue No., ten days before the opening of the Show, to the Society's Showyard Erector (Mr John Reid, Showyard), to whom the following charges for flooring have to be paid: Horses, 30s. each; Ponies, Cattle, Sheep, and Pigs, 20s. each. *Floored Stalls for Animals.*

### ACCOMMODATION FOR ATTENDANTS.

79. Boxes for accommodation of attendants on Stock will, if desired, be provided beside the Stock at a charge of 40s. per box for members and 50s. for non-members. Attendants' boxes will be floored and lined with wood, with door. Applications for attendants' boxes must accompany entries of Stock, and Exhibitors must state the animal next to which the attendants' box is to be placed. Attendants' boxes cannot be guaranteed after the closing date. *Accommodation for Attendants.*

### IMPLEMENTS AND OTHER ARTICLES.

80. Implements will be received in the Yard from Tuesday, 10th July, till 5 o'clock on the afternoon of Monday, 16th July. Exhibited Tuesday, Wednesday, Thursday, and Friday. The Schedule of Entry must be filled up so far as within the knowledge of the Exhibitor, and prices must be stated. *Admission of Goods.*

81. No Money Prizes or Medals, except when specially offered, will be given by the Society for Implements of any kind. *Premiums.*

82. Agricultural Implements, and Implements and collections of articles not Agricultural, will be received for Exhibition, but the Secretary is entitled to refuse Entries from dealers in articles not deemed worthy of Exhibition. *Refusing Entries.*

83. In order to encourage exhibits of Agricultural Implements from operative Blacksmiths and Carpenters in the district of the Show, open space will be provided for these in some less prominent part of the Yard at a charge of 20s. for space 10 feet wide and 20 feet deep. *Local Operatives.*

84. Every article to be exhibited must be entered on the Society's Entry Form. Any article not so entered that is taken to the Show is liable to be ordered out of, or removed from, the Showyard, or confiscated to the Society. Exhibitors infringing this rule are moreover liable to a fine of £1. *Articles not entered.*



- Selling by auction and noisy behaviour forbidden.* 85. "Cheap-Jacks" are not admitted to the Showyard. The selling of goods by auction, shouting, and other behaviour calculated to annoy visitors or Exhibitors, are strictly forbidden. Exhibitors infringing this Regulation are liable to a fine of £1, and to have themselves and their goods ordered out of, or removed from, the Showyard, or to have their goods confiscated to the Society.
- Placing Exhibits.* 86. The articles of each Exhibitor must all be placed in one stand, except Implements in motion, and must not on any account extend beyond the allotted space. No article shall be moved out of its stand, or the stand dismantled, till the termination of the Show, at 5 P.M. on Friday. Those infringing this Rule shall be liable to a fine of 10s.
- Removing Exhibits.* 87. When the ground requires to be broken, the turf must be carefully lifted and laid aside, and the surface must be restored to the satisfaction of the Society, and at the expense of the Exhibitor. Failing this being done, the Society shall be at liberty to restore the ground and charge the cost to the Exhibitor.
- Restoring Turf.* 88. Exhibitors must arrange their own articles *within* the space allotted to them before 9 o'clock on Tuesday, and to the satisfaction of the Stewards in charge of the Implement Yard. Exhibitors are prohibited from subletting space allotted to them, and from displaying the name of any other firm on their Stand. All signs, except signs on gables, must face the front only. Nails must not be driven into the canvas.
- Arranging Exhibits.* 89. Exhibitors are not allowed to distribute handbills anywhere in the Yard except at their own Stand; and they must not for this or any other purpose encroach upon the adjacent alleys or open spaces.
- Signs.* 90. Exhibitors are required to have their Stands and the portions of the alleys immediately adjoining them swept up before eight o'clock on each morning of the Show.
- Handbills.* 91. All Machines requiring steam or fire must be entered as such in the Certificate, and will be placed in the Motion Yard. *Coke only shall be used in all cases where fire is required.* Coal shall not be used at any time in the Showyard. Those infringing this Rule shall incur a penalty of £5.
- Sweeping Stands, &c.* 92. No Steam Engine shall be driven in the Yard at a greater speed than 4 miles an hour. Traction Engines shall not be used in conveying Exhibits or other goods from one place to another in the Showyard.
- Fuel.* 93. Locomotive and Traction Engines and other Machines must not be moved from their places without permission of the Secretary or Stewards, and must not leave their stands till 6 P.M. on Friday.
- Steam Engines.* 94. There must be attached to each Implement, when forwarded to the Show, a label bearing the Exhibitor's name, and that of the Implement, as well as the number of the Exhibitor's stand.
- Traction Engines.* 95. The carriage of all Implements must be prepaid.
- Consigning Implements.* 96. Photographing in the Showyard is not permitted, except by photographers having a Stand in the Showyard or holding a "Photographer's Ticket." The "Photographer's Ticket" may be had from the Secretary, price 20s. It admits the holder to the Show when open to the public, and entitles him to photograph in the Showyard, subject to arrangements made by the Stewards. It does not entitle the holder to sell photographs in the Showyard. No photographer shall be allowed in the ring during Parades, except with the sanction of the Steward of Parades.
- Photographing in Showyard.* 97. Covered Booths for Offices (9 feet by 9 feet), purely for business, not for exhibition of goods, can be had for £6 to Members and £8 to Non-Members.
- Offices.* 98. Each Exhibitor in the Implement Department who is not a Member of the Society will receive one free Ticket of Admission to the Showyard for himself or a member of his firm, and will receive, in addition, for the use of attendants employed by him at his Stand, two Tickets of Admission for each complete ten feet of shedding in the
- Exhibitors and Attendants' Tickets.*

Motion Yard, and one Ticket for each complete ten feet of shedding in the other sections. No additional Free Tickets can be issued in any circumstances whatever. Additional Attendants' Tickets, not more than five for one Exhibitor, may be obtained by application in writing by the Exhibitor at 5s. each. *No tickets will be issued without an Order.*

99. The Tickets of Admission for Exhibitors and Attendants referred to in the foregoing Regulation will (about fourteen days prior to the Show) be issued to the Exhibitors in blank, with the number of the Exhibitor's Stand. The name of the person for whom each ticket is intended must be written on it before it is used. Each person holding a Free Ticket of Admission must sign his or her name on the back thereof, and must also, when required, sign his or her name in the book at the Entrance Gate. Exhibitors' attendants are strictly cautioned not to lend or transfer their Tickets, which can be used only by the persons whose names they bear, and who must be *bona fide* acting for, or employed by, the Exhibitor. No Ticket is transferable. An Exhibitor is liable to a fine of £1 for each case of transfer or other improper use of a Ticket issued to himself or employee.

*Tickets to be filled up and signed.*

*Tickets not Transferable. Improper use of Tickets.*

100. The following are the arrangements for the admission of Supplies (Refreshments or other goods) for Stand-holders during the Show: Messenger on foot (with or without hand-barrow) with supplies, admitted by Special Ticket; price for one admission, 2s., for the four days, 6s. Motor or horse vehicle and driver, with supplies, admitted by Special Ticket; price for one admission, 2s., for the four days, 10s. These Special Tickets may be had from the Secretary. Vehicles, with supplies, admitted throughout the day on the first day of the Show; on the other three days they will not be admitted between the hours of 10 A.M. and 5 P.M. except by written permit from the Secretary.

*Admission of Supplies for Stand-holders.*

101. The riding of Cycles in the Showyard is prohibited.

*Cycles.*

102. The Society will not be responsible for any accident that may occur from the machinery belonging to any Exhibitor; and it is a condition of entry that each Exhibitor shall hold the Society harmless, and indemnify it against any legal proceedings arising from any accident caused by his machinery.

*Accidents.*

103. The giving of Alcoholic Drinks to visitors at Stands in the Show is strictly prohibited.

*Alcoholic Drinks.*

104. Exhibitors desiring the use of gas in the Showyard should apply to the Manager of the Corporation Gas Works, Inverness, not later than Saturday, 9th June.

*Gas.*

105. \* Ground to be taken in spaces of 10 feet frontage by 20 feet deep, except in Motion Yard, which is to be 10 feet or larger amount of frontage by 50 feet deep. Exhibitors must take their space in one or other of the following Sections. Space is not let partly covered and partly open. Exhibits not in motion may be excluded from the Motion Yard. The space in the Motion Yard being limited in extent, and intended mainly for exhibits in motion, not more than one-fifth of the space allotted to any one Exhibitor—and in no case more than 400 square feet—may be occupied in the Motion Yard by exhibits not in motion.

*Space for Stands.*

*Exhibits not in Motion.*

106. The maximum extent of space which any one Exhibitor may apply for shall be 40 feet of frontage in the Motion Yard, and 100 feet of frontage in the other Sections.

*Maximum Space.*

107. The Society reserves the right to allot to applicants for Stands either the whole or part of the space they ask for.

*Allocation of space.*

108. Exhibitors requiring work executed in connection with the fitting up of stands allotted to them must employ the Society's Showyard Erector—Mr John Reid, 55 Blenheim Place, Aberdeen. The execution of orders received later than one week before the opening of the Show cannot be guaranteed.

\* Special provision may be made for Exhibitors of both machinery in motion and implements and machinery not in motion on application being made to the Secretary.

109. Rates for space, payable by Exhibitors when making their Entries:—

	Members.	Non-Members.
1. Open ground without Shedding, 20 ft. deep, per 10 ft.	£1 10 0	£2 10 0
2. Special open ground, without Shedding, 20 ft. deep, per 10 ft.	3 0 0	4 0 0
3. Ordinary Shedding, 20 ft. deep, 7 ft. to eave, per 10 ft.	1 15 0	2 10 0
4. Special Shedding, 20 ft. deep, 7 ft. to eave, per 10 ft.	3 0 0	4 0 0
5. Ordinary Shedding, 20 ft. deep, 7 ft. to eave, <i>close boarded at back</i> , per 10 ft.	3 0 0	4 0 0
6. Special Shedding, 20 ft. deep, 7 ft. to eave, <i>close boarded at back</i> , per 10 ft.	4 10 0	5 10 0
7. *Motion Yard, without Shedding, 50 ft. deep, per ft.	0 7 0	0 12 0
8. *Motion Yard, with Shedding (10 ft. open behind, 20 ft. covered, and 20 ft. <i>open in front</i> ), 11 ft. to eave, per foot	0 11 0	0 15 0
9. Covered Booths for offices, 9 ft. by 9 ft., each	6 0 0	8 0 0
10. Press offices, 9 ft. by 9 ft., each	£4.	

\* See Rules 105 and 106.

All internal fittings to be executed by the Exhibitor at his own expense. The Society's Showyard Erector must be employed. See Rule 108.

### NEW IMPLEMENTS.

1. An Exhibitor who desires to enter a "New Implement" for competition for the Society's Silver Medal must enter it separately as a "New Implement" at the commencement of the specification of his proposed exhibits; and he must define clearly, on a special form obtainable from the Secretary, the exact nature of the novelty which qualifies such implement to be entered for a Medal. Unless the "New Implement" be properly described in the specification, and particulars of its novelty are given at the time of making the entry, it will not be accepted.

2. For each entry of a "New Implement," sent with an application for space, made in accordance with Regulation 109, a non-returnable Entry Fee of £1 will be charged. Late entries of "New Implements" *only* will, however, be considered up to 9th June, provided that no increase of space beyond that originally allotted to the Exhibitor will be occasioned by such New Implements being shown at his stand.

3. In cases of sufficient merit, the Judges will recommend the award of the Society's Silver Medal to New Implements for agricultural or estate purposes, or to new improvements in such implements. No award shall be made without such trial as may be approved by the Directors.

4. The Society does not bind itself to try in the field every "New Implement" entered for a Silver Medal. Any Exhibitor who expresses a wish to do so can, with the sanction of the Steward of Implements, at his own expense take his New Implement out of the Showyard during the Show week and put it to work, and if within a reasonable distance, the Judges will, if they deem it necessary, inspect it at work and decide if it is worthy of a Silver Medal.

5. No Silver Medals will be awarded to, nor can any entry as New Implements be accepted of, machines of any class for which competitive trials have been announced by the Society as about to take place.

6. The Judges of New Implements will commence their inspection at 2.30 P.M. on Tuesday, 17th July, and will take in rotation the stands of the exhibitors who have entered New Implements for the Society's Silver Medals. A notice will be posted at the Secretary's Office each evening giving the number of the stand at which the Judges will commence their inspection next morning. Each Exhibitor, or his representative, will be expected to be at the stand to explain the working of the Implement to the Judges. If the exhibit be not ready and in working order by the time the Judges make their inspection, it is liable to be struck off the list.

7. All publications by exhibitors of the award of the Society's Silver Medals must state the year of the award, and must specify the exact nature of the "New Implement," of the improvement, or of the attachment to an Implement, for which the Silver Medal has been awarded.

8. On the recommendation of the Judges, with the approval of the Directors, any New Implement of merit, which cannot be sufficiently tried, or which is capable of further development, may be entered and exhibited as a "New Implement" at the succeeding Show of the Society.

9. The Judges' decision, when duly accepted and recorded, will in all cases be final.

#### RESERVED SEATS (NUMBERED) IN GRAND STAND.

*For Charges and Tickets, apply to Secretary up to opening day of Show. Thereafter tickets are sold only at the Booking-Office in Showyard behind Grand Stand.*

#### ADMISSION OF THE PUBLIC.

The public will be admitted daily at 8 A.M. Judging begins on Tuesday at 9.30 A.M. The charges for admission to the Yard will be—Tuesday, from 8 A.M. till 5 P.M., 7s. 6d. Wednesday, from 8 A.M. till 5 P.M., 5s.; Thursday, from 8 A.M. till 5 P.M., 2s. 6d.; from 5 P.M. till 8 P.M., 1s. Friday, from 8 A.M. till 5 P.M., 1s.

On Thursday and Friday children under twelve years of age admitted at 6d.

No Pass-out Checks given, and no re-admission without payment

Season Tickets—15s. each on application to Secretary. On the days of the Show Season Tickets are sold only at the Entrance Gates.

#### ADMISSION OF MEMBERS AND EXHIBITORS.

On exhibiting their "*Member's Badge*," which is strictly not transferable, Members of the Society are admitted free to the Showyard. Badges will be sent to all Members residing in the United Kingdom whose addresses are known, and on no account will duplicates be issued. All Members not producing their badges must pay at the gates, and the admission money will not on any account be returned. Badges must be signed by Members before being presented at the gate, and Members should continue to wear the badge during the whole time that they are in the Showyard.

Tickets of admission to the Showyard are sent to Exhibitors of Stock, Poultry, Dairy Produce, &c. (not Members), whose Entry Fees amount to not less than 20s.

For Exhibitors of Implements and their assistants tickets are issued as provided in the Regulations for Implements.

#### VARIOUS.

Exhibitors may display their own Placards *inside and in front* of their stands; with this exception, no Bills of any kind other than those of the Society are permitted on any of the Show erections. No newspapers or any other articles to be carried about the Yard for sale or display.

*No Carriages or Equestrians admitted without special leave from the Directors, and then only for Invalids. Bath-chairs may be brought in.*

Premium Lists, Regulations, and Certificates of Entry may be obtained by applying at the Secretary's Office, No. 3 George IV. Bridge, Edinburgh.

*All Communications should be addressed to The Secretary of the Highland and Agricultural Society of Scotland, No. 3 George IV. Bridge, Edinburgh. From 11th to 19th July, to the Secretary's Office, Showyard, Inverness.*

*Address for Telegrams—"SOCIETY," EDINBURGH.  
Telephone No.—CENTRAL 3655.*

## RAILWAY ARRANGEMENTS.

The Railway Companies will be furnished with a list of the Exhibitors of Stock and Implements, after the 26th June. All applications for horse-boxes and trucks, and for information as to train arrangements, must be made by the Exhibitors themselves to the Stationmaster where their stock is to be trucked.

*The arrangements made by the Railway Companies for the conveyance of Live Stock and Goods to and from the Show are indicated below, but exhibitors are recommended to apply to the respective companies for full particulars :—*

1. Live Stock and Goods to the Show to be charged ordinary rates.
2. Live Stock and Goods from the Show, if sold, to be charged ordinary rates.
3. Live Stock from the Show, if unsold, and returned not later than the second day after the closing day of the Show (excluding Sunday), to be carried at half rates back to the Station whence the animals were sent, and by same route, at owner's risk, on surrender of a certificate from the exhibitor to the effect that they are really unsold; failing surrender of such certificate, ordinary rates will be charged.
4. Poultry to be charged ordinary rates both ways, and will not be accepted for conveyance unless the carriage charges are prepaid.
5. Horse-boxes, or other Passenger Train vehicle, will not be provided for the carriage of Live Stock sent by Goods Train and invoiced at Goods Train rates. *For rates for Horse-boxes by Passenger and Special Trains, apply to the Railway Companies.*

6. Provender conveyed to and from Agricultural Shows with Live Stock will be charged at the applicable rates, subject to a free weight allowance, viz.—

Cattle . . . . .	per animal, 56 lb.
Horses . . . . .	56 "
Sheep, goats, lambs, pigs, and calves . . . . .	28 "

7. The carriage of all Live Stock, Implements, and other articles going to the Show for exhibition must be PREPAID; and the carriage on all traffic returned from the Show by Passenger Train Service must be PREPAID.

The carriage charges on Live Stock conveyed in special vehicles by Passenger Train and intended to be returned to the original sending Station may also be prepaid for the return journey at the original sending Station if the owner so desires.

The Railway Charge on all exhibits which are conveyed by Passenger Train in the Guard's Van and intended to be returned from the Show direct to the original sending Station by the same route must be PREPAID, for both the outward and return journeys, at the original sending Station. The agreed form of address label for Poultry, Dairy Produce, Bee Appliances, and Wool exhibits, which will be supplied through the Secretary of the Society, must be used in such cases.

8. Attendants in charge of Live Stock are conveyed free in the cases shown below, when certified by the owners to be *bona fide* in charge of such Live Stock :—

*In Horse-Boxes.*—Horses and Cattle: One man for each consignment, except where the consignment requires more than one vehicle, when one man to each vehicle may be sent free; but where two or three Horses or Cattle forming one consignment are sent in the same Horse-box and a man is required to travel with each animal, a man for each animal may be conveyed free, provided each animal is charged for separately.

*In Horse-Boxes.*—Small animals: One man to each vehicle.

*In specially constructed Cattle Trucks.*—Cattle or other animals: One man to each vehicle.

9. Agricultural Machines, Implements, and other Exhibits from the Show, if unsold, to be conveyed at half rates back to the Station whence they were sent, at Owner's risk, on production of a Certificate from the Exhibitor to the effect that they are unsold; failing production of such Certificate, ordinary rates must be charged. The reduction to half rates is to be allowed only when the articles are returned by the same route as that by which they were conveyed to the Show, but it shall be in the option of the Railway Company or Companies to return the articles at half rates by a different route.

10. Unsold goods, previously carried by railway, transferred from one Agricultural Show to another, in another part of the country, or exhibited at several

Shows consecutively, and returned to the Station from whence originally sent, will be conveyed at half rates at Owner's risk, on production of Certificate from the Exhibitor to the effect that they are unsold; failing production of such Certificate, ordinary rates will be charged. This applies only to Goods Trains.

11. The ordinary rates charged for carriage do not in any case include delivery to, or collection from, the Show-ground.

12. Agricultural Societies' Show Plant must be charged at Class C rates, station to station.

13. Tents, Canvas, and other articles, not for exhibition, to be charged the ordinary rates both going and returning.

14. Carriages and other Road Vehicles are only conveyed by Passenger Train when this can be conveniently done.

### DELIVERY AND COLLECTION CHARGES.

Cartage Charges for application in the Delivery or Collection of traffic to and from the Showground of the Highland and Agricultural Society's Show at Inverness, on 17th, 18th, 19th, and 20th July 1923.

	At C. & D. Rates.	At S. to S. Rates.
General traffic . . . . .	2s. 3d. per ton.	4s. 6d. per ton.
Minimum charge per consignment . . . . .	1s.	2s.
Implements and Machinery (Agricultural), not exceeding 1 ton each . . . . .	2s. 3d. per ton.	4s. 6d. per ton.
Minimum charge per delivery . . . . .	1s. 3d.	2s. 6d.
Implements and Machinery (Agricultural) on their own wheels (specially hauled), not exceeding 1 ton . . . . .	6s. each, less an allowance at the rate of 2s. 3d. per ton.	6s. each.
When hauled on their own wheels behind a lorry, loaded or partly loaded with goods, actual weight at . . . . .	3s. 9d. per ton.	6s. per ton.
Single articles, exceeding 1 ton but not exceeding 3 tons . . . . .	3s. 9d. per ton.	6s. per ton.
Single articles, exceeding 3 tons but not exceeding 5 tons . . . . .	8s. 9d. per ton.	11s. per ton.
Single articles, exceeding 5 tons, by special arrangement only, but no less charge than . . . . .	11s. 9d. per ton.	14s. per ton.
Rustic Houses, by special arrangement only, but no less charge than . . . . .	15s. per load.	
Carriages, four-wheeled . . . . .	6s. each.	
Carriages, two-wheeled . . . . .	4s. each.	
Cattle, in floats . . . . .	5s. per head.	
Minimum charge . . . . .	7s. 6d.	
Sheep, Goats, and Pigs, in floats . . . . .	1s. 6d. per head.	
Minimum charge for each float . . . . .	7s. 6d.	
Pigs, in crates . . . . .	2s. 9d. per crate.	
Minimum charge per load . . . . .	5s. 6d.	
Ordinary Parcels by passenger train . . . . .	6d. each.	
Miscellaneous passenger train traffic, including packages of plants and flowers carried at O.R. rates S. to S. . . . .	6d. per cwt.	
Minimum charge per consignment . . . . .	1s.	
*Poultry in crates or hampers . . . . .	8d. per crate or hamper.	

\* Poultry exhibits only will be conveyed at the Society's expense from the Railway Station to the Showyard and back, but no exhibit subject to railway charges will be received by the Society. All other delivery charges must be paid by the Exhibitor.

## REGULATIONS FOR GOAT CLASSES.

The animals will be milked dry at 6 o'clock on the evening previous to the opening of the Show, in the presence of, and to the satisfaction of, the Steward or a representative of the Society duly authorised by him.

Kids must be entered in the Kid Register of the British Goat Society. Goatlings must be entered either in the Kid Register or the Show Register, whilst all other Goats must be entered in either of these Registers or the Herd-Book before being exhibited at this Show.

## MILKING COMPETITION—CLASS 134.

The animals will be milked at 7 P.M. on Tuesday, 17th July, at an appointed place in the order arranged by the Steward, and the milk of the next thirty-six hours will be taken for the trials. The hours of milking shall be 7 A.M. and 7 P.M. on Wednesday, 18th July, and 7 A.M. on Thursday, 19th July.

All Goats must have kidded within twelve months of the first day of the Show.

The prizes will be awarded according to the following scale of points :—

For each pound of milk . . . . . 1 point.

For each 6 days the Goat has been in milk (deducting the first forty days after kidding), with a maximum of 5.4 points . . . . .  $\frac{1}{10}$  of a point.

The period of lactation to be calculated from the date of kidding to the first day of the Show. No prize will be awarded to a goat giving less than 4 lb. of milk per day.

A Certificate giving the last date of kidding, signed by the owner of the Goat exhibited, or his Agent, must in every case be brought to the Steward of Goats as soon as possible after the animal has arrived in the Showyard.

The milk yielded by Goats in the Showyard shall be the property of the Society.

## BEE APPLIANCES AND HONEY, &amp;c.

## RULES AND REGULATIONS.

1. All exhibits must be despatched in time to be delivered at the Showyard not later than 6 P.M. on Monday, 16th July. According to railway regulations, exhibitors will require to pay return carriage when despatching. Return carriage-paid labels will be supplied by the Secretary. Non-compliance with this regulation will mean that the exhibit will be left in the Showyard. Boxes containing hives, jars, or sections must be screwed and not nailed, and the hives, bottles, and sections so placed that they can be lifted out and replaced without disturbing the packing.

2. The number of the exhibit will be sent by the Secretary (as entered on the card), and must be placed on every exhibit and on each detachable part of exhibit—viz., on the several parts of each Hive, on every jar of Extracted Honey. The number must be gummed on the jar and not on the bottom or cap. No goods will be allowed to be staged unless this rule is complied with.

3. No card, trade mark, or name of the exhibitor may be placed upon any part of an exhibit. Every article exhibited must be the property of the exhibitor, and all honey must have been gathered in the natural way within the United Kingdom, by bees the property of the exhibitor.

4. Comb Honey must be glazed on both sides, to protect the honey from injury. If paper edging is used, it must be of such a width as to leave  $3\frac{1}{2}$  inches by  $3\frac{1}{2}$  inches of glass clear of the lace paper, or in any other neat way capable of easy removal by the judges, in small boxes glazed on both sides, such as supplied by dealers.

5. All Run, Extracted, and Granulated Honey must be shown in the usual mercantile Glass Jars holding approximately 1 lb., except in Class 12.

6. No exhibitor shall be allowed to take more than one prize in any one class.

7. The Judge shall be empowered to withhold prizes in case of insufficient merit.

8. Should there be in any class three or less than three entries, the value of the first prize will be reduced to that of the second, the second to that of the third, and no third prize will be awarded.

9. Railway delivery charges from station to Showyard and back to be paid by exhibitor.

## THE PRESIDENT'S CHAMPION MEDALS

A Champion Medal is given by THE MACKINTOSH OF MACKINTOSH, President of the Society, for the *best Animal* in each of the following sections :—

1. Shorthorn.	10. Fat Cattle.	18. Western Island Pony.	27. Shropshire.
2. Dairy Shorthorn.	11. Clydesdale Stallion.	19. Shetland Pony.	28. Goat.
3. Aberdeen-Angus.	12. Draught Gelding.	20. Harness Horse.	29. Large White Pig.
4. Galloway.	13. Clydesdale Mare and Filly.	21. Blackface Sheep.	30. Middle White.
5. Highland.	14. Hunter.	22. Cheviot.	31. Berkshire.
6. Ayrshire.	15. Hackney.	23. Border Leicester.	32. Large Black.
7. British-Friesian.	16. Pony.	24. Half-bred.	33. Gloucestershire Old Spots.
8. Red Poll.	17. Highland Pony.	25. Oxford-Down.	34. Cumberland.
9. Belted Galloway.		26. Suffolk.	

NOTE.—Animals entered as *Extra Stock* may compete for these Medals. Former Winners of the President's Medals are eligible. The Society shall have the right to photograph the Winners for publication in the 'Transactions.' At this Show no animal can be awarded more than one of these Medals.

ENTRY FEE		CLASS	* CATTLE				PREMIUMS			
Members	Non-Members		SHORTHORN				First	Second	Third	Fourth
			<i>President's Medal for best Shorthorn</i>				£	£	£	£
			<sup>1</sup> Tweeddale Gold Medal for best Shorthorn Bull. <sup>2</sup> The Duthie Perpetual Challenge Cup, value £150, for best animal in the Shorthorn Classes, "Extra Stock" being eligible to compete.							
25/-	45/-	1	Bull calved before 1st December 1920				15	10	5	3
25/-	45/-	2	Bull calved on or after 1st December 1920 and before 1st April 1921				15	10	5	3
25/-	45/-	3	Bull calved on or after 1st April 1921, and not later than 30th November 1921				12	8	4	2
25/-	45/-	4	Bull calved on or after 1st December 1921, and not later than 31st March 1922				12	8	4	2
25/-	45/-	5	Bull calved on or after 1st April 1922				10	6	4	2
			<sup>3</sup> The Emilio R. Casares, jun., "Junior Champion Challenge Cup," value £50, for best Shorthorn Bull in Class 5, calved on or after 1st April of the year preceding the Show, that has passed the tuberculin test. <sup>4</sup> Best Shorthorn Bull in the Show, entered or eligible for entry in Coates's Herd-Book—£20. <sup>4</sup> Silver Medal to the Breeder of the winner of above Prize. Breeder of best Bull of any age in the five Classes—The Silver Medal.							

\* See Rules 32 and 33.

<sup>1</sup> Annual Free Income from Fund of £500.

<sup>2</sup> This Cup was gifted by the late Mr William Duthie, Collynie. The Cup may not be won on more than one occasion with the same animal. The animal winning the Cup must be certified free from hereditary disease. The winner of the Cup shall, before delivery thereof is made to him, give security to the Society that he shall surrender the same to the Society and deliver it at the Society's office when called upon to do so. The winner of the Cup on each occasion will receive a miniature replica as a memento of his winning the Cup.

<sup>3</sup> Given by Mr Emilio R. Casares, jun., London. This Cup will become the property of the Exhibitor who shall win it three times, not necessarily in succession. A Silver Medal will be awarded to the winner each year.

<sup>4</sup> Given by the Shorthorn Society.



ENTRY FEES		CLASS	CATTLE	PREMIUMS			
Members	Non-Members			First	Second	Third	Fourth
				£	£	£	£
25/-	45/-	6	Cow calved before 1st December 1920, in Milk .	12	8	4	2
25/-	45/-	7	Heifer or Cow calved on or after 1st Dec. 1920 .	10	5	3	2
25/-	45/-	8	Heifer calved on or after 1st Dec. 1921 and not later than 31st March 1922 .	10	5	3	2
25/-	45/-	8A	Heifer calved on or after 1st April 1922— <sup>1</sup> 1st Prize, £10, 10s., or Piece of Plate; <sup>2</sup> 2nd Prize, £5; 3rd Prize, £3; 4th Prize, £2. <sup>3</sup> Best Shorthorn Female in the Show, entered or eligible for entry in Coates's Herd-Book—£20. <sup>3</sup> Silver Medal to the Breeder of the winner of above Prize.				
PRIZE MONEY BY SOCIETY . £206 0							
CONTRIBUTED PRIZES . 60 10							
<b>* DAIRY SHORTHORN</b>							
<i>President's Medal for best Dairy Shorthorn</i>							
25/-	45/-	9	<sup>4</sup> Dairy Shorthorn Cow, in Milk, calved in or before 1919, eligible for, and entered in Coates's Herd-Book, or pedigree sent for such entry previous to the Show—see Regulations below .	10	5	3	2
			<sup>4</sup> Silver Medal to the Breeder of the winner of above Prize.				
25/-	45/-	10	<sup>4</sup> Dairy Shorthorn Heifer, in Milk, calved in or after 1920, eligible for, and entered in Coates's Herd-Book, or pedigree sent for such entry previous to the Show—see Regulations below .	10	5	3	2
			<sup>4</sup> Silver Medal to the Breeder of the winner of above Prize.				

<sup>1</sup> Given by Mr Charles D. Stewart, Ballindarroch, Inverness.

<sup>2</sup> £10 given by Scottish Shorthorn Breeders.

<sup>3</sup> Given by the Shorthorn Society.

<sup>4</sup> First Prizes and Silver Medals given by the Shorthorn Society in conjunction with the Dairy Shorthorn Association. No animal winning these prizes is eligible to compete again the same year, except at the Royal Agricultural Society's Show.

**\* REGULATIONS FOR DAIRY SHORTHORN CLASSES.**

The Shorthorn Dairy Cows and Heifers in Classes 9 and 10 will be milked dry at 6 o'clock on the evening previous to the opening of the Show, in the presence of, and to the satisfaction of, the Steward of Cattle or a representative of the Society duly authorised by him, and will be milked in the ring on the first morning of the Show in the presence of the Judge, who shall see the milk weighed, and any animal that does not yield up to the following standard shall not be awarded a prize.

	Having calved within 2 Calendar Months.	Having calved between 2 & 3 Calendar Months.	Having calved more than 3 Calendar Months.
Cows, 5 years and upwards . . . . .	80 lbs.	27 lbs.	24 lbs.
Cows, 4 years and under 5 years . . . . .	26 lbs.	23 lbs.	20 lbs.
Cows, or Heifers (8 years and under 4 years) . . . . .	22 lbs.	19 lbs.	16 lbs.
Heifers, under three years old . . . . .	18 lbs.	15 lbs.	12 lbs.

(Ages to be calculated to the first day of the Show inclusive.)

ENTRY FEES		CLASS	CATTLE	PREMIUMS			
Members	Non-Members			First	Second	Third	Fourth
				£	£	£	£
25/-	45/-	11	<b><sup>1</sup> Dairy Shorthorn Bull</b> , calved in 1922, entered or Pedigree accepted for entry in Coates's Herd-Book. No Bull is eligible to compete unless registered or accepted for registration in the Year-Book of the Dairy Shorthorn Association. [The Prizes will not be awarded unless there are at least three individual exhibitors in each Class.] PRIZE MONEY BY SOCIETY. . . £25 CONTRIBUTED PRIZES. . . 35	10	5	3	2
<b>ABERDEEN-ANGUS</b> <i>President's Medal for best Aberdeen-Angus Animal</i> <b><sup>2</sup> Fife and Kinross Perpetual Gold Challenge Cup</b> , value £200, for best Aberdeen-Angus animal, "Extra Stock" being eligible to compete. <b><sup>3</sup> Ballindalloch Challenge Cup</b> , value £50, for the best Bull of any age in the three Classes. <b>Breeder of best Bull</b> of any age in the three Classes—The Silver Medal. <b>Breeder of the Winner</b> of the Ballindalloch Challenge Cup—The Silver Medal. <b><sup>3</sup> Ballindalloch Challenge Cup</b> , value £50, for the best Cow of any age in the above Classes. <b>Breeder of the Winner</b> of the Ballindalloch Challenge Cup—The Silver Medal. <b><sup>4</sup> Champion Gold Medal</b> , for best animal in the breeding Classes, breeding animals shown as "Extra Stock" being eligible to compete. PRIZE MONEY BY SOCIETY . £206							
25/-	45/-	12	<b>Bull</b> calved before 1st Dec. 1920 . . . . .	15	10	5	3
25/-	45/-	13	<b>Bull</b> calved on or after 1st Dec. 1920 . . . . .	15	10	5	3
25/-	45/-	14	<b>Bull</b> calved on or after 1st Dec. 1921 . . . . .	12	8	4	2
25/-	45/-	15	<b>Cow</b> in Milk calved before 1st Dec. 1919 . . . . .	12	8	4	2
25/-	45/-	16	<b>Cow</b> in Milk calved on or after 1st Dec. 1919 . . . . .	12	8	4	2
25/-	45/-	17	<b>Heifer</b> calved on or after 1st Dec. 1920 . . . . .	10	5	3	2
25/-	45/-	18	<b>Heifer</b> calved on or after 1st Dec. 1921 and before 1st March 1922 . . . . .	10	5	3	2
25/-	45/-	19	<b>Heifer</b> calved on or after 1st March 1922 . . . . .	10	6	4	2

<sup>1</sup> First and Second Prizes given by Dairy Shorthorn Association.

<sup>2</sup> This Cup, along with an endowment of £400, was subscribed for by the Counties of Fife and Kinross in commemoration of the Society's first Show at Cupar-Fife in 1912. This year the Cup is offered for the best Aberdeen-Angus animal. The animal winning the Cup must be certified free from hereditary disease. The winner of the Cup shall, before delivery thereof is made to him, give security to the Society that he shall surrender the same to the Society and deliver it at the Society's office when called upon to do so. The winner of the Cup on each occasion will receive a miniature replica in silver as a memento of his winning the Cup.

<sup>3</sup> "The Ballindalloch Challenge Cups," value £50 each, are offered for the best Bull of any age and best Cow of any age (Heifers excluded) in the Aberdeen-Angus classes, the former presented by the late Sir George Macpherson Grant, Bart., and the latter by the late Sir John Macpherson Grant, Bart. Each Cup will become the property of the Exhibitor who shall win it five times, not necessarily in succession. The breeder of the successful animals each year will receive the Society's Silver Medal, with suitable inscription.

<sup>4</sup> Given by the Aberdeen-Angus Cattle Society.

ENTRY FEES			CLASS			PREMIUMS			
Members	Non-Members	First				Second	Third	Fourth	
		£				£	£	£	
<b>CATTLE</b>									
<b>GALLOWAY</b>									
<i>President's Medal for best Galloway</i>									
25/-	45/-	20	Bull calved before 1st Dec. 1920	15	10	5	3		
25/-	45/-	21	Bull calved on or after 1st Dec. 1920	15	10	5	3		
25/-	45/-	22	Bull calved on or after 1st Dec. 1921	12	8	4	2		
Breeder of best Bull of any age in the three Classes—The Silver Medal.									
25/-	45/-	23	Cow of any age in Milk	12	8	4	2		
25/-	45/-	24	Heifer calved on or after 1st Dec. 1920	10	5	3	2		
25/-	45/-	25	Heifer calved on or after 1st Dec. 1921	10	5	3	2		
PRIZE MONEY BY SOCIETY				£158					
<b>HIGHLAND</b>									
<i>President's Medal for best Highland Animal</i>									
25/-	45/-	26	Bull calved before 1921	15	10	5	3		
25/-	45/-	27	Bull calved in 1921	15	10	5	3		
25/-	45/-	28	Bull calved in 1922	12	8	4	2		
1 Perpetual Victory Challenge Cup, approximate value 50 Guineas, for the best animal in the male Classes, "Extra Stock" being eligible to compete.									
Breeder of best Bull of any age in the three Classes—The Silver Medal.									
25/-	45/-	29	Cow of any age in Milk	12	8	4	2		
25/-	45/-	30	Heifer calved in 1920	10	5	3	2		
25/-	45/-	31	Heifer calved in 1921	10	5	3	2		
1 Perpetual Victory Challenge Cup, approximate value 35 Guineas, for the best animal in the female Classes, "Extra Stock" being eligible to compete.									
PRIZE MONEY BY SOCIETY				£158					

ENTRY FEES		CLASS	CATTLE AYRSHIRE	PREMIUMS		
Members	Non-Members			First	Second	Third
				£	£	£
			<p>1. To be eligible for competition in the Ayrshire Classes Cows must have an authenticated Milk Yield, and younger Females and Bulls an authenticated Milking Pedigree, of a definite minimum amount.</p> <p>2. The minimum amount referred to shall be as follows, calculated on the basis of a period between calvings of 52 weeks, and 3·8 per cent of butter fat:—</p> <p>(a) Cows which have completed two or more lactations—700 gallons.</p> <p>(b) Cows which have completed only one lactation—600 gallons.</p> <p>(c) Younger Females and Bulls—an authenticated Milking Pedigree for dam and dam of sire on a similar basis.</p> <p>3. In the case of Cows with two or more lactations the record lodged may be that for any year the Exhibitor may select.</p> <p>4. The evidence of Milk Yield and Milking Pedigree shall be in the form of a Certificate signed by the Secretary of the Milk Records Association. The Certificate, besides giving the actual yields above referred to, shall give these reduced to a uniform basis calculated at 1 per cent butter fat. This latter figure shall be communicated to the Judges before adjudicating.</p> <p>5. The authenticated Milk Yields and authenticated Milking Pedigrees shall appear in the Catalogue.</p> <p><i>N.B.—Certificates above referred to must be lodged with Entries.</i></p> <p><i>President's Medal for best Ayrshire</i></p> <p><sup>1</sup> Cowhill Champion Cup, approximate value £30, for best animal of the Ayrshire breed, entered with a number in the Herd-Book. The Cup to be won three times, not necessarily in succession, by the same person with different animals, before becoming the property of the winner.</p>			
45/-	65/-	32	<sup>2</sup> Cow in Milk,* calved before 1920 . . . . .	12	8	4
45/-	65/-	33	<sup>2</sup> Cow in Milk,* calved after 1st Jan. 1920 . . . . .	10	7	3
45/-	65/-	34	<sup>2</sup> Cow of any age in Calf,* and due to calve before 1st Dec. of the year of the Show . . . . .	10	7	3
25/-	45/-	35	Heifer calved in or after 1920, in Calf and due to calve before 1st Dec. of the year of the Show . . . . .	10	7	3
25/-	45/-	36	Heifer calved in 1921 . . . . .	10	5	3
25/-	45/-	37	Heifer calved in 1922 . . . . .	8	5	3
			<sup>3</sup> Special Prize of £10 for the best Female Animal of the Ayrshire breed entered with a number in the Ayrshire Cattle Herd-Book not later than 1st June 1923.			
25/-	45/-	38	Bull calved before 1921 . . . . .	12	8	4
25/-	45/-	39	Bull calved in 1921 . . . . .	10	7	3
25/-	45/-	40	Bull calved in 1922 . . . . .	8	5	3
			Breeder of best Bull of any age in Classes 38, 39, and 40—The Silver Medal.			
			<sup>3</sup> Special Prize of £10 for the best Male Animal of the Ayrshire breed entered with a number in the Ayrshire Cattle Herd-Book not later than 1st June 1923.			
			PRIZE MONEY BY SOCIETY . . . . .	£178		
			CONTRIBUTED PRIZES . . . . .	20		

\* See Rule 72.

<sup>1</sup> Presented by Major Henry Keswick, Cowhill Tower, Dumfries, to Ayrshire Cattle Herd-Book Society, to be competed for annually at the Shows of the Highland and Agricultural Society of Scotland.<sup>2</sup> Cows in these Classes must have produced a calf within fifteen months prior to the Show.<sup>3</sup> Given by the Ayrshire Cattle Herd-Book Society.

ENTRY FEES			CLASS		PREMIUMS		
Members	Non-Members	First			Second	Third	
		£			£	£	
CATTLE							
BRITISH FRIESIAN							
<i>President's Medal for best British Friesian Animal</i>							
25/-	45/-	41	Bull calved in or before 1920	10	5	3	
25/-	45/-	42	Bull calved in 1921	10	5	3	
25/-	45/-	43	Bull calved in 1922	10	5	3	
Champion Prize of £5 given by the British Friesian Cattle Society for the best male exhibited.							
25/-	45/-	44	<sup>1</sup> Cow in milk,* calved in or before 1919	10	5	3	
25/-	45/-	45	Cow in calf, calved in or before 1919	10	5	3	
25/-	45/-	46	Heifer in milk, calved in 1920 or 1921	10	5	3	
25/-	45/-	47	Heifer in calf, with her first calf to calve before 3 years old	10	5	3	
25/-	45/-	48	Heifer calved in 1922.	10	5	3	
Champion Prize of £5 given by the British Friesian Cattle Society for the best female exhibited.							
PRIZE MONEY BY SOCIETY				£91			
<sup>2</sup> CONTRIBUTED PRIZES				63			
RED POLL							
<i>President's Medal for best Red Poll Animal</i>							
<sup>3</sup> Kinmount Challenge Cup, value about £50, for the best female animal in the Red Poll Classes registered in the Red Poll Cattle Society's Herd-Book, "Extra Stock" being eligible to compete.							
25/-	45/-	49	Bull of any age	10	5	3	
25/-	45/-	50	<sup>1</sup> Cow or Heifer in milk or in calf, calved in or before 1920	10	5	3	
25/-	45/-	51	Heifer calved in 1921 or 1922	10	5	3	
PRIZE MONEY BY SOCIETY				£27			
<sup>4</sup> CONTRIBUTED PRIZES				27			

\* See Rule 72.

<sup>1</sup> Cows in these Classes must have produced a calf within fifteen months prior to the Show.

<sup>2</sup> £63 contributed by the British Friesian Cattle Society.

<sup>3</sup> This Cup was presented to the Society by Lieut.-Colonel Charles Brook of Kinmount, Annan. The winner of the Cup shall, before delivery thereof is made to him, give security to the Society that he shall surrender the same to the Society and deliver it at the Society's office when called upon to do so.

<sup>4</sup> Contributed by Red Poll Cattle Society.

ENTRY FEES		CLASS	PREMIUMS		
Members	Non-Members		First	Second	Third
			£	£	£
<b>CATTLE</b>					
<b>BELTED GALLOWAY</b>					
<i>President's Medal for best Belted Galloway Animal</i>					
			<sup>1</sup> Knockbrex Challenge Cup, value £50, for the best Belted Galloway Animal, "Extra Stock" being eligible to compete.		
25/-	45/-	52	Bull calved before 1st December 1921 . . . . .		
25/-	45/-	53	Bull calved on or after 1st December 1921 . . . . .		
25/-	45/-	54	Cow or Heifer calved before 1st December 1920 in milk or in calf; if in calf, to calve on or before 1st December of the year of the Show . . . . .		
25/-	45/-	55	Heifer calved on or after 1st December 1920 . . . . .		
PRIZE MONEY BY SOCIETY . . . . .			£28		
<sup>2</sup> CONTRIBUTED PRIZES . . . . .			28		
<b>FAT CATTLE</b>					
<i>President's Medal for best Fat Animal</i>					
25/-	45/-	56	Ox, any pure breed or cross, calved after 1st Dec. 1920 . . . . .		
25/-	45/-	57	Ox, any pure breed or cross, calved after 1st Dec. 1921 . . . . .		
25/-	45/-	58	Heifer, any pure breed or cross, calved after 1st Dec. 1920 . . . . .		
25/-	45/-	59	Heifer, any pure breed or cross, calved after 1st Dec. 1921 . . . . .		
PRIZE MONEY BY SOCIETY . . . . .			£28		
PRIZE MONEY BY SOCIETY . . . . .			£1105	0	
CONTRIBUTED . . . . .			233	10	
CUPS, MEDALS, &c. . . . .			754	5	
<b>Total Prizes for Cattle</b>			<b>£2092 15</b>		

<sup>1</sup> This Cup is offered by Mrs Brown of Knockbrex for the best Belted Galloway animal registered in the Dun and Belted Galloway Cattle Breeders' Association Herd-Book, entered in any of the Breeding classes, at the Show or Shows at which it may be competed for. The winner of the Trophy shall, before delivery thereof is made to him, give security to the Society that he shall surrender the same to the Society and deliver it at the Society's office when called upon to do so. The winner on each occasion will receive a Silver medal as a memento of his winning the Trophy.

<sup>2</sup> Contributed by the Dun and Belted Galloway Cattle Breeders' Association.

ENTRY FEES		CLASS	PREMIUMS			
Members	Non-Members		First	Second	Third	Fourth
			£	£	£	£
<b><sup>1</sup> HORSES</b>						
FOR AGRICULTURAL PURPOSES						
<b>DRAUGHT STALLIONS</b>						
<i>President's Medal for best Clydesdale Stallion or Colt</i>						
55/-	75/-	60	Stallion foaled before 1920 . . . . .	20	15	10 4
55/-	75/-	61	Entire Colt foaled in 1920 . . . . .	20	15	10 4
55/-	75/-	62	Entire Colt foaled in 1921 . . . . .	20	15	10 4
40/-	60/-	63	Entire Colt foaled in 1922 . . . . .	15	10	6 4
<sup>2</sup> William Taylor Memorial Prize of £10 and Certificate to the breeder of the best Clydesdale Colt entered in Classes 62 or 63.						
Breeder of best Male Animal of any age in Classes 60, 61, 62, and 63—The Silver Medal.						
PRIZE MONEY BY SOCIETY . . . £182						
CONTRIBUTED PRIZES . . . 10						
<b>DRAUGHT GELDINGS</b>						
<i>President's Medal for best Draught Gelding</i>						
40/-	60/-	64	Draught Gelding foaled before 1920 . . . . .	10	5	3 -
40/-	60/-	65	Draught Gelding foaled in 1920 . . . . .	6	4	3 -
40/-	60/-	66	Draught Gelding foaled in 1921 . . . . .	6	4	3 -
PRIZE MONEY BY SOCIETY . . . £44						
<b>DRAUGHT MARES AND FILLIES</b>						
<i>President's Medal for best Clydesdale Mare or Filly</i>						
55/-	75/-	67	Mare of any age, with Foal at foot . . . . .	20	12	7 4
40/-	60/-	68	Yeld Mare foaled before 1920 . . . . .	12	9	6 4
40/-	60/-	69	Yeld Mare or Filly foaled in 1920 . . . . .	12	9	6 4
40/-	60/-	70	Filly foaled in 1921 . . . . .	12	9	6 4

<sup>1</sup> For prizes given by the Society, no animal is allowed to compete in more than one Class, except that horses entered in other Classes may also compete in the Jumping and Harness Classes.

<sup>2</sup> Given by William Taylor Memorial Committee.

Stallions and Colts, 2 years old and upwards, must be licensed for stud purposes. See Rule 38.

ENTRY FEES			CLASS	PREMIUMS			
Members	Non-Members	First		Second	Third	Fourth	
£	£			£	£	£	£
<b>HORSES</b>							
<b>DRAUGHT MARES AND FILLIES—continued</b>							
40/-	60/-	71	Filly foaled in 1922 . . . . .	12	9	6	4
			Best Clydesdale Mare or Filly—Cawdor Challenge Cup, value 50 guineas. See Conditions below. <sup>1</sup>				
PRIZE MONEY BY SOCIETY . . . . .				£167			
Total Prize Money for Draught Horses, £403							
<b>HUNTERS</b>							
(Classes 72 to 75 to be judged at 2.30 P.M. on Tuesday, 17th July)							
<i>President's Medal for best Hunter</i>							
55/-	75/-	72	Hunter Brood Mare, with Foal at Foot . . . . .	15	7	3	—
40/-	60/-	73	Yeld Mare, Filly, or Gelding, for field, foaled in 1920—in hand . . . . .	10	5	3	—
40/-	60/-	74	Yeld Mare, Filly, or Gelding, for field, foaled in 1921—in hand . . . . .	10	5	3	—
40/-	60/-	75	Colt, Gelding, or Filly, foaled in 1922, the produce of thoroughbred Stallion or registered Hunter sire, out of Mare of any breed . . . . .	10	5	3	—
<sup>2</sup> Best Hunter Filly, not exceeding three years old, registered with a number in the Hunter Stud-Book, or the entry tendered within a month of the award—Champion Gold Medal.							
PRIZE MONEY BY SOCIETY . . . . .				£79			

<sup>1</sup> This Cup is offered by the Clydesdale Horse Society of Great Britain and Ireland (subject to the conditions of that Society) for the best Clydesdale Mare or Filly registered in the Clydesdale Stud-Book, entered in any of the Draught Horse Classes, at the Show at which it may be competed for. The Cup must be won four times by an Exhibitor with different animals (but not necessarily in consecutive years) before it becomes his absolute property. The animal winning this Cup must be certified free from hereditary disease. The winner of the Cup, other than the absolute winner, shall, before delivery thereof is made to him, give security to the Clydesdale Horse Society that he shall surrender the same to the Society and deliver it at the Society's office when called upon to do so. Until the Cup be won outright, the winner on each occasion will receive the Clydesdale Horse Society's Silver Medal as a memento of his winning the Cup.

<sup>2</sup> Given by the Hunters' Improvement and National Light Horse Breeding Society.

**Stallions and Colts, 2 years old and upwards, must be licensed for stud purposes. See Rule 39.**



ENTRY FEE		CLASS	PREMIUMS		
Members	Non-Members		First	Second	Third
			£	£	£
<b>HORSES</b>					
<b>HACKNEYS</b>					
<i>(All to be shown in hand)</i>					
<i>President's Medal for best Hackney in Classes 76 to 78</i>					
55/-	75/-	76	<b>Brood Mare</b> , over 14 hands, with Foal at foot, or to foal this season to a registered sire . . .		
40/-	60/-	77	<b>Yeld Mare or Filly</b> foaled in or after 1920 . . .		
55/-	75/-	78	<b>Stallion</b> foaled in or before 1920, over 14 hands . . .		
			10	6	4
			8	5	3
			10	6	4
All animals entered in the above Hackney Classes must be registered in the Hackney Stud-Book except yearlings in Class 77, which must be eligible for entry. Entry forms must be accompanied by certificate to this effect from Mr F. F. Euren, 12 Hanover Square, London, W.					
PRIZE MONEY BY SOCIETY . . . £56					
<b>PONIES</b>					
<i>(Classes 79 and 80 will be judged by Hackney Judge)</i>					
<i>President's Medal for best Pony</i>					
40/-	60/-	79	<b>Stallion</b> , 3 years old and upwards, 14 hands and under—in hand . . .		
40/-	60/-	80	<b>Yeld Mare, Filly, or Gelding</b> , 3 years old and upwards, 14 hands and under—in saddle . . .		
			5	3	2
			5	3	2
PRIZE MONEY BY SOCIETY . . . £20					
<b><sup>1</sup> HIGHLAND PONIES</b>					
<i>President's Medal for best Highland Pony</i>					
<i>(To be judged at 1.30 P.M. on Tuesday, 17th July)</i>					
<b><sup>2</sup> Paisley Perpetual Gold Challenge Cup</b> , value £300, for best Highland Pony, "Extra Stock" being eligible to compete.					

<sup>1</sup> The Board of Agriculture for Scotland gives £40 towards prizes for Highland Ponies.

<sup>2</sup> This Cup, along with an endowment of £600, was provided from money collected in Paisley by the late Provost Muir M'Kean, and is in commemoration of the Society's first Show at Paisley in 1913. This year the Cup is offered for the best Highland Pony. The animal winning the Cup must be certified free from hereditary disease. The winner of the Cup shall, before delivery thereof is made to him, give security to the Society that he shall surrender the same to the Society and deliver it at the Society's office when called upon to do so. The winner of the Cup on each occasion will receive a miniature replica in silver as a memento of his winning the Cup.

**Stallions and Colts, 2 years old and upwards, must be licensed for stud purposes. See Rule 39.**

ENTRY FEES		CLASS	HORSES	PREMIUMS		
Members	Non-Members			First	Second	Third
				£	£	£
<b>HIGHLAND PONIES—continued</b>						
40/-	60/-	81	Stallion, 3 years old or upwards, not exceeding 14.2 hands . . . . .	8	4	2
40/-	60/-	82	Mare, 3 years old or upwards, not exceeding 14.2 hands, yeld or with Foal at foot . . . . .	8	4	2
40/-	60/-	83	Entire Colt, foaled after 1st January 1921 . . . . .	6	4	2
40/-	60/-	84	Filly, foaled after 1st January 1921 . . . . .	6	4	2
			<sup>1</sup> Special Prize of £10 for the best Highland Stallion, Mare, Colt, or Filly, entered or accepted for entry in the Highland Section of the National Pony Stud-Book, "Extra Stock" being eligible to compete. Competition to be strictly confined to animals passed sound and free from hereditary disease.			
			PRIZE MONEY BY SOCIETY . . . . .	£52		
			CONTRIBUTED PRIZES . . . . .	10		
<b>WESTERN ISLAND PONIES</b>						
<i>(To be judged at 1.30 P.M. on Tuesday, 17th July)</i>						
<i>President's Medal for best Western Island Pony</i>						
40/-	60/-	85	Stallion, 3 years old or upwards, not exceeding 14.2 hands . . . . .	8	4	2
40/-	60/-	86	Mare, 3 years old or upwards, not exceeding 14.2 hands, yeld or with Foal at foot . . . . .	8	4	2
40/-	60/-	87	Entire Colt, foaled after 1st January 1921 . . . . .	6	4	2
40/-	60/-	88	Filly, foaled after 1st January 1921 . . . . .	6	4	2
			<sup>1</sup> Special Prize of £10 for the best Western Island Stallion, Mare, Colt, or Filly, entered or accepted for entry in the Highland Section of the National Pony Stud-Book, "Extra Stock" being eligible to compete. Competition to be strictly confined to animals passed sound and free from hereditary disease.			
			PRIZE MONEY BY SOCIETY . . . . .	£52		
			CONTRIBUTED PRIZES . . . . .	10		
<b>RIDING HORSES</b>						
<i>(To be judged at 2.30 P.M. on Tuesday, 17th July)</i>						
40/-	60/-	89	Stallion, Mare, or Gelding, 14 to 15 hands, to be shown in saddle, and to be judged by Hunter Judges . . . . .	8	5	3
			PRIZE MONEY BY SOCIETY . . . . .	£16		

<sup>1</sup> Given by the National Pony Society.

Stallions and Colts, 2 years old and upwards, must be licensed for stud purposes. See Rule 35.

ENTRY FEES		CLASS	HORSES SHETLAND PONIES (To be judged at 1.30 P.M. on Tuesday, 17th July) (All to be shown in hand) President's Medal for best Shetland Pony	PREMIUMS			
Members	Non-Members			First	Second	Third	Fourth
				£	£	£	£
35/-	55/-	90	Stallion, not exceeding 10½ hands, foaled before 1920	8	5	3	2
35/-	55/-	91	Entire Colt, not exceeding 10½ hands, foaled in 1920 or 1921	8	5	3	2
35/-	55/-	92	Mare, not exceeding 10½ hands, with Foal at foot	8	5	3	2
35/-	55/-	93	Yeld Mare, not exceeding 10½ hands	8	5	3	2
35/-	55/-	94	Filly, not exceeding 10½ hands, foaled in 1920 or 1921	8	5	3	2
			<sup>1</sup> Shetland Pony Foal, entered or eligible for entry in the Stud-Book, exhibited along with dam in Class 92	5	3	2	—
			<sup>2</sup> Silver Medal for the best Shetland Pony of the sex opposite to that of the winner of the President's Medal, entered or eligible for entry in the Shetland Pony Stud-Book.				
			PRIZE MONEY BY SOCIETY . . .	£90			
			CONTRIBUTED PRIZES . . .	10			
			 <sup>3</sup> HORSES IN HARNESS (To be judged at 2.30 P.M. on Tuesday, 17th July) <sup>4</sup> President's Medal for best animal in the Classes for Horses in Harness				
40/-	60/-	95	Yeld Mare, Filly, or Gelding, any age, in Harness, 15 hands and upwards, to be driven in the ring	15	10	5	—
40/-	60/-	96	Yeld Mare, Filly, or Gelding, any age, in Harness, under 15 hands, to be driven in the ring.	15	10	5	—
			Special Prize for best Pony in Class 96, under 14 hands	5	—	—	—
			PRIZE MONEY BY SOCIETY . . .	£65			
			PRIZE MONEY BY SOCIETY . . .	£783	0		
			CONTRIBUTED . . .	80	0		
			CUPS, MEDALS, &c. . .	362	10		
			Total Prizes for Horses . . .	£1225	10		

<sup>1</sup> Given by "Four Lovers of the Breed," per Mr W. Mungall of Traney.

<sup>2</sup> Given by the Shetland Pony Stud-Book Society.

<sup>3</sup> Animals entered in other Classes may be entered in the Harness Classes at an additional fee of 5s. if they are eligible.

<sup>4</sup> An animal that has won a President's Medal in another section in this Show shall not be eligible to compete for the Medal in this section.

Shed accommodation for machines for Driving Competitions—Members, 10s.; Non-Members, 20s.

## JUMPING COMPETITIONS

## SPECIAL REGULATIONS

(See also the Regulations on pages 69 to 76)

1. Jumping Competitions will take place on the afternoons of Wednesday, Thursday, and Friday, the 18th, 19th, and 20th July, and on the evening of Thursday, 19th July.
2. Entries for each day's Competitions will close at the Secretary's Office in the Showyard at 6 P.M. on the preceding day. Entries for Evening Jumping may be received till the beginning of the Competition.
3. Entry Fees.—Wednesday, £1; Thursday and Friday, 10s. for each class. Evening Jumping, 10s.
4. Accommodation for jumping horses will be provided as follows: Covered shed in which to stand during the day free of charge; or, on application to the Secretary not less than ten days before the opening of the Show, stalls or loose-boxes will be provided at a charge (in addition to the Entry Fee) of £2 for a stall and £3 for a loose-box, which must be paid along with the Entry Fee at the time of application.
5. Horses entered for jumping only need not enter the Showyard till 12 noon on the day of Competition, and may leave the Showyard at the close of the jumping.
6. The Jumps may consist of Single Hurdle, Gate, Double Hurdle, Wall, and Water Jump, power being reserved by the Society to alter these, as well as the Handicaps, as may be thought desirable.

CLASS		First	Second	Third	Fourth	Fifth
	<b>WEDNESDAY.</b>	£	£	£	£	£
1	Horse or Pony any height . . . . .	20	15	10	5	3
	<b>THURSDAY.</b>					
2	Horse or Pony any height, Handicap, hurdles and gate being raised 8 inches for the winner of the first prize, and 4 inches for the winner of the second prize in Class 1 . . . . .	10	8	5	3	2
	<b>FRIDAY.</b>					
3	Horse or Pony any height, Handicap, hurdles and gate being raised 8 inches for the winner of the first prize, and 4 inches for the winner of the second prize in either of Classes 1 or 2—4 inches extra for the winner of the two first prizes in Classes 1 and 2 . . . . .	10	8	5	3	2
	Champion Prize for most points in Prizes with one or more horses in above Classes—First Prize to count five points; Second Prize, four points; Third Prize, three points; Fourth Prize, two points; and Fifth Prize, one point—the money to be evenly divided in the event of a tie . . . . .	10	—	—	—	—
	<b>THURSDAY EVENING.</b>					
4	Horse or Pony any height . . . . .	10	8	5	3	2
	<b>Total Prize Money for Jumping, £147</b>					

*Special Entry Forms for above Competitions to be had on application.*

ENTRY FEES		CLASS	PREMIUMS			
Members	Non-Members		First	Second	Third	Fourth
			£	£	£	£
S H E E P						
*BLACKFACE						
<i>President's Medal for best animal of Blackface breed</i>						
<sup>1</sup> Renfrewshire Perpetual Gold Challenge Cup, value £250, for best animal of the Blackface breed, "Extra Stock" being eligible to compete.						
15/-	25/-	97	Tup above one shear . . . . .	12	8	4 2
15/-	25/-	98	Shearling Tup . . . . .	12	8	4 2
15/-	25/-	99	Shearling Tup, which shall have been entirely out-wintered, and not housed or house-fed at any time, and not clipped <i>before</i> 15th May 1923 . . . . .	12	8	4 2
Tup, entered in Classes 97, 98, and 99, carrying the fleece best adapted for protection, combined with suitability for manufacturing purposes—to be judged by Judge of Wool . . . . .						
				5	3	2 —
15/-	25/-	100	Ewe above one shear, with her Lamb at foot . . . . .	10	5	2 —
15/-	25/-	101	Shearling Ewe or Gimmer . . . . .	10	5	2 —
15/-	25/-	102	<sup>2</sup> Special Prizes of £5, £3, and £2, for Blackface Tup Lamb, bred by Exhibitor . . . . .	5	3	2 —
PRIZE MONEY BY SOCIETY . . . . .			£122			
CONTRIBUTED . . . . .			10			
C H E V I O T						
<i>President's Medal for best animal of the Cheviot breed</i>						
15/-	25/-	103	Tup above one shear . . . . .	12	8	4 2
15/-	25/-	104	Shearling Tup . . . . .	12	8	4 2
15/-	25/-	105	Ewe above one shear, with her Lamb at foot . . . . .	10	5	2 —
15/-	25/-	106	Shearling Ewe or Gimmer . . . . .	10	5	2 —
PRIZE MONEY BY SOCIETY . . . . .			£86			

\* Formal Declarations must be made at time of entry that the conditions as regards clipping, &c., have been strictly adhered to.

<sup>1</sup> This Cup, along with an endowment of £500, was provided from money collected in Renfrewshire by the late Provost Muir MacKean of Paisley, and is in commemoration of the Society's first Show in the county of Renfrew in 1913. This year the Cup is offered for the best animal of the Blackface breed. The animal winning the Cup must be certified free from hereditary disease. The winner of the Cup shall, before delivery thereof is made to him, give security to the Society that he shall surrender the same to the Society and deliver it at the Society's office when called upon to do so. The winner of the Cup on each occasion will receive a miniature replica in silver as a memento of his winning the Cup.

<sup>2</sup> Given by Major Alexander Browne of Callaly Castle.

ENTRY FEES		CLASS		PREMIUMS			
Members	Non-Members			First	Second	Third	Fourth
			<b>SHEEP</b>				
			<b>BORDER LEICESTER</b>				
			<i>President's Medal for best animal of Border Leicester breed</i>				
15/-	25/-	107	Tup above one shear . . . . .	12	8	4	2
15/-	25/-	108	Shearling Tup . . . . .	12	8	4	2
			<sup>1</sup> Gold Medal for best male animal in the Border Leicester Classes, registered or eligible for registration in the Border Leicester Flock-Book. Animals entered as "Extra Stock" not eligible.				
15/-	25/-	109	Ewe above one shear . . . . .	10	5	2	--
15/-	25/-	110	Shearling Ewe or Gimmer . . . . .	10	5	2	--
			<sup>1</sup> Gold Medal for best female animal in the Border Leicester Classes, registered or eligible for registration in the Border Leicester Flock-Book. Animals entered as "Extra Stock" not eligible.				
			PRIZE MONEY BY SOCIETY . . . . .	£86			
			<b>HALF-BRED</b>				
			<i>President's Medal for best Half-Bred Animal</i>				
15/-	25/-	111	Tup above one shear . . . . .	10	7	3	--
15/-	25/-	112	Shearling Tup . . . . .	10	7	3	--
15/-	25/-	113	Ewe above one shear . . . . .	10	5	2	--
15/-	25/-	114	Shearling Ewe or Gimmer . . . . .	10	5	2	--
15/-	25/-	115	Three Ewe Lambs . . . . .	5	3	2	--
			PRIZE MONEY BY SOCIETY . . . . .	£84			
			<b>OXFORD-DOWN</b>				
			<i>(All sheep to be entered or eligible for entry in the Flock-Book)</i>				
			<i>President's Medal for best Oxford-Down Animal</i>				
			<sup>2</sup> Scottish Oxford-Down Sheep Breeders' Challenge Cup, value £50, for the best Oxford-Down animal bred in Scotland, to be won three times by the same owner, but with different sheep, before becoming his property.				
15/-	25/-	116	Shearling Tup . . . . .	8	5	3	--
15/-	25/-	117	Shearling Ewe or Gimmer . . . . .	8	5	3	--
15/-	25/-	118	Tup Lamb . . . . .	8	5	3	--
15/-	25/-	119	Three Ewe Lambs . . . . .	8	5	2	--
			PRIZE MONEY BY SOCIETY . . . . .	£42			
			<sup>2</sup> CONTRIBUTED PRIZES . . . . .	21			

<sup>1</sup> Given by the Society of Border Leicester Sheep-Breeders.<sup>2</sup> Given by Oxford-Down Sheep-Breeders' Association.

ENTRY FEES			CLASS	SHEEP SUFFOLK	PREMIUMS		
Members	Non-Members	First			Second	Third	
					£	£	£
(All sheep to be entered or eligible for entry in the Flock-Book)							
President's Medal for best Suffolk Sheep							
15/-	25/-	120	Tup, one shear and over . . . . .	8	5	3	
15/-	25/-	121	Shearling Ewe or Gimmer . . . . .	8	5	3	
15/-	25/-	122	Tup Lamb . . . . .	8	5	3	
15/-	25/-	123	Three Ewe Lambs . . . . .	8	5	2	
<sup>1</sup> Special Prizes of £7, 7s. and £3, 3s. for best and second best group comprising Tup, Ewe, Tup Lamb, and Ewe Lamb entered in above classes, all to be registered or eligible for registration in Flock Book, and, with the exception of the Tup, bred by exhibitor.							
PRIZE MONEY BY SOCIETY . . . . .				£38	0		
<sup>2</sup> CONTRIBUTED PRIZES . . . . .				25	0		
SPECIAL PRIZES . . . . .				10	10		
SHROPSHIRE							
President's Medal for best Shropshire Animal							
15/-	25/-	124	Shearling Tup . . . . .	6	4	2	
15/-	25/-	125	Shearling Ewe or Gimmer . . . . .	5	3	2	
PRIZE MONEY BY SOCIETY . . . . .				£22			
FAT SHEEP							
15/-	25/-	126	Three Fat Lambs, any breed or cross, dropped in the year of the Show . . . . .	5	3	2	
PRIZE MONEY BY SOCIETY . . . . .				£10			
PRIZE MONEY BY SOCIETY . . . . .				£490	0		
CONTRIBUTED . . . . .				66	10		
CUPS, MEDALS, &c. . . . .				320	0		
Total Prizes for Sheep . . . . .				£876	10		

<sup>1</sup> Given by Mr Dugald M'Kechnie, Glasgow.<sup>2</sup> Given by the Suffolk Sheep Society.

ENTRY FEES			CLASS	PREMIUMS		
Members	Non-Members	First		Second	Third	
		£		£	£	
<div>* GOATS</div> <div>President's Medal for best animal in the Goat Classes</div> <div>(All animals must be registered)</div> <div><div><div><div><div><div>1</div><div>Challenge Cup, value 20 Guineas, for the best Female Goat in the Show.</div></div><div><div>2</div><div>Challenge Cup, value £10, for best Female Anglo-Nubian Goat over two years old, in milk, entered in the Anglo-Nubian section of the Herd-Book, "Extra Stock" being eligible to compete.</div></div></div><div><div><div>5/-</div><div>10/-</div><div>127</div><div>Male Goat, any variety, over two years</div></div><div><div>5/-</div><div>10/-</div><div>128</div><div>Male Goat, any variety, over one but not exceeding two years</div></div><div><div>5/-</div><div>10/-</div><div>129</div><div>Male Kid, any variety, not exceeding one year</div></div><div><div>5/-</div><div>10/-</div><div>130</div><div>Female Goat, Anglo-Nubian, in milk</div></div><div><div>5/-</div><div>10/-</div><div>131</div><div>Female Goat, any other variety, in milk</div></div><div><div>5/-</div><div>10/-</div><div>132</div><div>Goatling, any variety, over one and not exceeding two years</div></div><div><div>5/-</div><div>10/-</div><div>133</div><div>Female Kid, any variety, not exceeding one year</div></div><div><div>5/-</div><div>10/-</div><div>134</div><div>† Milking Competition, for quantity, open to Classes 130 and 131</div></div></div><div>NOTE.—No animal is allowed to compete in more than one class, except that Goats entered in Classes 130 and 131 may also be entered in Class 134.</div><div><div>PRIZE MONEY BY SOCIETY</div><div>BOARD OF AGRICULTURE FOR SCOTLAND</div><div>CUPS</div><div>Total Prizes for Goats</div></div><div><div>£36</div><div>12</div><div>31</div><div>£79</div></div></div></div></div> </						

The Competition for Goats is recognised by the British Goat Society, 5 Fenchurch Street, London, E.C., which will give Challenge Certificates (qualifying for a Championship) for the best Male Goat over one year, for the best Female Goat over two years that has borne a kid, and for the best dual purpose Goat; a Breed Challenge Certificate for the best Anglo-Nubian Female Goat over two years that has borne a kid; a Bronze Medal for the best female exhibit in Classes 130, 131, 132, and 133; and a Bronze Medal for the best male exhibit in Classes 127, 128, and 129.

<sup>1</sup> Given by Lord Dewar, London—to be competed for annually.

<sup>2</sup> Given by Mrs S. Macdonald, Garrochty—to be competed for annually.

† The milk yielded by goats in this Class shall be the property of the Society.

\* For Regulations see page 82.



ENTRY FEES			CLASS	PREMIUMS		
Members	Non-Members	First		Second	Third	
		£		£	£	
<b>* P I G S</b>						
<b>LARGE WHITE</b>						
<i>President's Medal for best Large White Pig</i>						
<sup>1</sup> Gold Medal, or Cash, value £5, for the best Large White Boar in the Show.						
15/-	25/-	135	Boar farrowed before 1922 . . . . .	8	4	2
15/-	25/-	136	Boar farrowed in 1922 . . . . .	8	4	2
15/-	25/-	137	Boar farrowed in 1923 . . . . .	6	3	1
<sup>1</sup> Gold Medal, or Cash, value £5, for the best Large White Sow in the Show.						
15/-	25/-	138	Sow farrowed before 1922 . . . . .	8	4	2
15/-	25/-	139	Sow farrowed in 1922 . . . . .	8	4	2
15/-	25/-	140	Sow farrowed in 1923 . . . . .	6	3	1
PRIZE MONEY BY SOCIETY . . .				£76		
<b>MIDDLE WHITE</b>						
<i>President's Medal for best Middle White Pig</i>						
<sup>1</sup> Gold Medal, or Cash, value £5, for the best Middle White Boar in the Show.						
15/-	25/-	141	Boar, any age . . . . .	8	4	2
15/-	25/-	142	Boar farrowed in 1923 . . . . .	6	3	1
<sup>1</sup> Gold Medal, or Cash, value £5, for the best Middle White Sow in the Show.						
15/-	25/-	143	Sow, any age . . . . .	8	4	2
15/-	25/-	144	Sow farrowed in 1923 . . . . .	6	3	1
PRIZE MONEY BY SOCIETY . . .				£48		
<b>BERKSHIRE</b>						
<i>President's Medal for best Berkshire Pig</i>						
15/-	25/-	145	Boar, any age . . . . .	8	4	2
15/-	25/-	146	Boar farrowed in 1923 . . . . .	6	3	1
15/-	25/-	147	Sow, any age . . . . .	8	4	2
15/-	25/-	148	Sow farrowed in 1923 . . . . .	6	3	1
PRIZE MONEY BY SOCIETY . . .				£48		

\* See Rule 35.

<sup>1</sup> Given by the National Pig-Breeders' Association.

ENTRY FEES		CLASS	PIGS LARGE BLACK	PREMIUMS		
Members	Non-Members			First	Second	Third
			<i>President's Medal for best Large Black Pig</i>			
			<sup>1</sup> <b>Champion Cup</b> , value £10, 10s., for the best Large Black animal exhibited, "Extra Stock" being eligible to compete. The Cup to be won twice in succession or three times at intervals by the same exhibitor before it becomes his absolute property.	£	£	£
15/-	25/-	149	Boar, any age . . . . .	8	4	2
15/-	25/-	150	Boar farrowed in 1922 . . . . .	8	4	2
15/-	25/-	151	Boar farrowed in 1923 . . . . .	6	3	1
15/-	25/-	152	Sow, any age . . . . .	8	4	2
15/-	25/-	153	Sow farrowed in 1922 . . . . .	8	4	2
15/-	25/-	154	Sow farrowed in 1923 . . . . .	6	3	1
			PRIZE MONEY BY SOCIETY . . . . .	£52		
			<sup>1</sup> CONTRIBUTED PRIZES . . . . .	24		
			<b>GLOUCESTERSHIRE OLD SPOTS</b>			
			<i>President's Medal for best Gloucestershire Old Spot Pig</i>			
			<sup>2</sup> <b>Silver Challenge Trophy</b> , value Forty Guineas, for best Gloucestershire Old Spot Animal, to be won three times, not necessarily in succession, before becoming the property of the winner, "Extra Stock" being eligible to compete.			
15/-	25/-	155	Boar, any age . . . . .	8	4	2
15/-	25/-	156	Boar farrowed in 1923 . . . . .	6	3	1
15/-	25/-	157	Sow, any age . . . . .	8	4	2
15/-	25/-	158	Sow farrowed in 1923 . . . . .	6	3	1
			PRIZE MONEY BY SOCIETY . . . . .	£33		
			<sup>2</sup> CONTRIBUTED PRIZES . . . . .	15		
			<b>CUMBERLAND</b>			
			<i>President's Medal for best Cumberland Pig</i>			
15/-	25/-	159	Boar, any age . . . . .	8	4	2
15/-	25/-	160	Boar farrowed in 1923 . . . . .	6	3	1
15/-	25/-	161	Sow, any age . . . . .	8	4	2
15/-	25/-	162	Sow farrowed in 1923 . . . . .	6	3	1
			PRIZE MONEY BY SOCIETY . . . . .	£28		
			<sup>3</sup> CONTRIBUTED PRIZES . . . . .	20		
			PRIZE MONEY BY SOCIETY . . . . .	£285 0		
			CONTRIBUTED . . . . .	79 0		
			CUPS, MEDALS, &c. . . . .	52 10		
			<b>Total Prizes for Pigs . . . . .</b>	<b>£416 10</b>		

<sup>1</sup> Given by Large Black Pig Society.<sup>2</sup> Given by the Gloucestershire Old Spots Pig Society.<sup>3</sup> Given by the Cumberland Pig-Breeders' Association.**EXTRA STOCK** (*former winners and Stock not eligible for Ordinary Classes*).

Animals not included in the Classes for Competition may be exhibited as Extra Stock and may receive Awards as follows:—Very Highly Commended, the Silver Medal; Highly Commended, the Medium Silver Medal; Commended, the Bronze Medal.

Animals entered as Extra Stock are eligible to compete for the President's Medals, whether former winners of these Medals or not. They are also eligible to compete for Special Prizes where the conditions of these prizes permit.

*Entry fees—same as corresponding Classes.*

## \* POULTRY

<sup>1</sup> **Champion Challenge Bowl**, value £50, for the best exhibit in the Poultry Classes.

*First Premium*—ONE SOVEREIGN; *Second Premium*—TEN SHILLINGS. In each Class in which there are four or more pens competing, a Third Prize of Five Shillings may be awarded, provided there is sufficient merit in the pens. Three or more Commendations may also be given—thus, Very Highly Commended, Highly Commended, and Commended.

*Champion Medals* are offered as follows:—

- |                                |                              |
|--------------------------------|------------------------------|
| 1. Best Cock, any Variety.     | 4. Best Pullet, any Variety. |
| 2. Best Hen, any Variety.      | 5. Best Waterfowl.           |
| 3. Best Cockerel, any Variety. | 6. Best Turkey.              |

Aged Birds must have been hatched previous to, and Cockerels and Pullets in, the year of the Show.

*Entry Fees*—Members, 2s. 6d.; Non-Members, 4s.

LEIGHORN—		Class	WYANDOTTE—continued	Class
<i>White</i>	.	1. Cock	<i>Gold or Silver</i>	37. Cockerel
	.	2. Hen	.	38. Pullet
	.	3. Cockerel	<i>White</i>	39. Cock
	.	4. Pullet	.	40. Hen
<i>Any other Colour</i>	.	5. Cock	.	41. Cockerel
	.	6. Hen	.	42. Pullet
	.	7. Cockerel	<i>Partridge</i>	43. {Cock or
	.	8. Pullet	.	{Cockerel
MINORCA	.	9. Cock	.	44. {Hen or
	.	10. Hen	.	{Pullet
	.	11. Cockerel	<i>Any other Colour</i>	45. {Cock or
SCOTCH GREY	.	12. Pullet	.	{Cockerel
	.	13. Cock	.	46. {Hen or
	.	14. Hen	.	{Pullet
PLYMOUTH ROCK—	.	15. Cockerel	RHODE ISLAND RED	47. Cock
	.	16. Pullet	.	48. Hen
	.	17. Cock	.	49. Cockerel
	.	18. Hen	.	50. Pullet
<i>Barred</i>	.	19. Cockerel	SUSSEX—	
	.	20. Pullet	<i>Light</i>	51. Cock
	.	21. {Cock or	.	52. Hen
	.	{Cockerel	.	53. Cockerel
<i>Any other Colour</i>	.	22. {Hen or	.	54. Pullet
	.	{Pullet	<i>Any other Variety</i>	55. Cock
ORPINGTON—	.		.	56. Hen
	.	23. Cock	.	57. Cockerel
	.	24. Hen	.	58. Pullet
<i>Black</i>	.	25. Cockerel	DORKING—	
	.	26. Pullet	<i>Coloured</i>	59. Cock
	.	27. Cock	.	60. Hen
<i>Buff</i>	.	28. Hen	.	61. Cockerel
	.	29. Cockerel	.	62. Pullet
	.	30. Pullet	<i>Silver Grey</i>	63. Cock
<i>White</i>	.	31. Cock	.	64. Hen
	.	32. Hen	.	65. Cockerel
	.	33. Cockerel	.	66. Pullet
	.	34. Pullet	SCOTS DUMPHY	67. {Cock or
WYANDOTTE—	.		.	{Cockerel
	.	35. Cock	.	68. {Hen or
<i>Gold or Silver</i>	.	36. Hen	.	{Pullet

<sup>1</sup> Given by the Proprietors of 'The Scottish Poultry News,' Aberdeen. The Bowl will become the property of the exhibitor who shall win it three times, not necessarily in succession. A Silver Medal will be awarded to the winner each year.

*Special Entry Forms for Poultry Classes.*

\* See Regulations 66 and 67.

		Class	DUCKS—continued		Class
INDIAN GAME . . .	69.	Cock	<i>Orpington</i> . . .	93.	Drake
	70.	Hen		94.	Duck
	71.	Cockerel		95.	{ Drake
	72.	Pullet			{ (young)
OLD ENGLISH GAME . . .	73.	Cock	<i>Indian Runner</i> . . .	96.	{ Duck
	74.	Hen			{ (young)
	75.	Cockerel		97.	Drake
	76.	Pullet		98.	Duck
BANTAM— <i>Game</i> . . .	77.	Cock	<i>Any other Variety</i> . . .	99.	Drake
	78.	Hen		100.	Duck
	79.	Cock	GESE . . .	101.	Gander
	80.	Hen		102.	Goose
<i>Other than Game</i> . . .	81.	Cockerel	TURKEYS . . .	103.	Cock
	82.	Pullet		104.	Hen
Any other recognised Breed . . .			TABLE POULTRY—		
CROSS-BRED FOWLS FOR LAY- ING PURPOSES . . .	83.	Cock	(a) TABLE FOWLS—		
	84.	Hen	<i>Any pure Breed</i> . . .		
	85.	Cockerel	<i>Game-Cross</i> . . .	105.	{ Pair of Cockerels
	86.	Pullet		106.	{ Pair of Pullets
DUCKS— <i>Aylesbury</i> . . .	87.	Hen		107.	{ Pair of Cockerels
	88.	Pullet		108.	{ Pair of Pullets
	89.	Drake	<i>Any other Cross</i> . . .	109.	{ Pair of Cockerels
	90.	Duck		110.	{ Pair of Pullets
	91.	{ Drake			
		{ (young)			
	92.	{ Duck	(b) DUCKLINGS FOR TABLE		
		{ (young)	PURPOSES—		
			<i>Any Breed or Cross</i> . . .		
			111.	{ Pair of Ducklings	

AMOUNT OF POULTRY PREMIUMS, £194, 5s.

*Special Entry Forms for Poultry Classes.*

## \* DAIRY PRODUCE

No Exhibitor to show more than one lot in any Class.

*Entry Fees*—Members, 5s. ; Non-Members, 7s. 6d.

Class	Premiums.			
	1st.	2nd.	3rd.	
1. Powdered Butter, not less than 3 lb. . . . .	£ 4	£ 2	£ 1	
2. Fresh Butter, three 1-lb. rolls . . . . .	4	2	1	
3. Cheddar Cheese, 56 lb. and upwards—£6, £4, £2, £1 . . . . .				£14
4. Sweet-Milk Cheese, flat shape (from a dairy where all cheese is made flat shape), white in colour, made according to the Dunlop or other method—£4, £2, £1 . . . . .				18
5. Cheese, 14 lb. and under—£3, £2, £1 . . . . .				7
				6
				<u>£40</u>

*Special Entry Forms for Dairy Produce.*

\* See Regulations 75 and 76.

## \* BEE APPLIANCES AND HONEY, &c. OPEN CLASSES.

### APPLIANCES

Class	Entry Fees—2s. 6d. each.	Premiums.		
		1st.	2nd.	3rd.
1. Collection of Hives and Appliances, to include amongst other articles the following:—Three Standard Frame Hives complete, fitted with arrangements for supering. A suitable outfit for a beginner in Bee-Keeping (this to be staged separate from the main outfit). Prices—at which the exhibitor must agree to supply similar articles for six months—to be affixed to each article. Fifty superficial feet allowed for staging		80/-	40/-	20/-
2. Best and most complete Standard Frame Hive for general use, unpainted		20/-	15/-	10/-
3. Best and most complete Standard Frame Hive for Cottager's use, unpainted, price not to exceed 35/-		20/-	15/-	10/-
4. Any new Appliance connected with Bee-Keeping to which no prize has been awarded at any previous Highland show		10/-	5/-	—

### HONEY, &c.

Entry Fees—2s. 6d. each.				
5. Six Sections of Comb Honey	20/-	15/-	10/-	
6. Six Jars of Run or Extracted Light-coloured Honey, approximate weight 6 lb.	20/-	15/-	10/-	
7. Six Jars of Run or Extracted Medium or Dark-coloured Honey, excluding Heather, approximate weight 6 lb.	20/-	15/-	10/-	
8. Six Jars of pressed Heather Honey in liquid form, approximate weight 6 lb.	20/-	15/-	10/-	
9. Six Jars of Granulated Honey, approximate weight 6 lb.	20/-	15/-	10/-	
10. Two shallow frames of Comb Honey for extracting purposes	20/-	15/-	10/-	
11. Products made with the aid of Honey. Recipe to be attached	20/-	15/-	10/-	
12. Best display of Honey in any form staged in space 3 feet by 3 feet, height from table not exceeding 4 feet. Weight of honey not to exceed 100 lb.	60/-	30/-	20/-	
13. Best exhibit of not less than 1 lb. of Wax in any form	20/-	15/-	10/-	
14. Best exhibit of not less than 1 lb. of Wax made into shapes for retail trade and over-counter trade	20/-	15/-	10/-	
15. Observatory Hive with Queen and Bees	50/-	30/-	15/-	

#### (Confined to Scottish Exhibitors.)

16. One shallow frame of Comb Honey for extracting purposes	20/-	15/-	10/-
17. Six Sections of Comb Honey	30/-	20/-	10/-
18. Six Jars of Run or Extracted Medium or Dark-coloured Honey (excluding Heather Honey), approximate weight 6 lb.	30/-	20/-	10/-
19. Six Jars of Run or Extracted Light-coloured Honey, approximate weight 6 lb.	30/-	20/-	10/-

The Silver Medal will be awarded by the Scottish Bee-Keepers' Association to the winner of the greatest number of points in Honey Classes calculated on the following basis: 1st prize, 3 points; 2nd prize, 2 points; 3rd prize, 1 point.

PRIZE MONEY BY SOCIETY . . . £43, 10s. 0d.

CONTRIBUTED BY SCOTTISH BEE-KEEPERS' ASSOCIATION . . . £10, 10s. 0d.

#### *Special Entry Forms for Appliances and Honey.*

\* For Regulations as to exhibits see page 82.

Should there be in any class three or less than three entries, the value of the first prize will be reduced to that of the second, the second to that of the third, and no third prize will be awarded.



## RURAL INDUSTRIES

Entry Fees, 4s. each.					Premiums.		
OPEN CLASSES.					1st.	2nd.	3rd.
Class.	SHETLAND KNITTING.				£	£	£
1. Fine Goods . . . . .	.	.	.	.	3	2	1
2. Jumper—one colour . . . . .	.	.	.	.	3	2	1
3. „ two or more colours . . . . .	.	.	.	.	3	2	1
4. Other Exhibits . . . . .	.	.	.	.	3	2	1
TWEEDS.							
5. Shetland . . . . .	.	.	.	.	3	2	1
6. Harris . . . . .	.	.	.	.	3	2	1
7. Other Homespun . . . . .	.	.	.	.	3	2	1
MISCELLANEOUS.							
8. Home-made Rug . . . . .	.	.	.	.	3	2	1
9. Embroidery—white . . . . .	.	.	.	.	3	2	1
10. „ coloured . . . . .	.	.	.	.	3	2	1
11. Leather Gloves . . . . .	.	.	.	.	3	2	1
12. Fur Gloves . . . . .	.	.	.	.	3	2	1
13. Specimen of Furcraft other than Gloves . . . . .	.	.	.	.	3	2	1
14. „ Leather Work other than Gloves . . . . .	.	.	.	.	3	2	1
15. „ Hand-painted Pottery . . . . .	.	.	.	.	3	2	1
16. „ Basket Work (Rafia Baskets not eligible) . . . . .	.	.	.	.	3	2	1
17. Bottled Fruit (bottled in or before 1922, 3 bottles) . . . . .	.	.	.	.	3	2	1
					<hr/>		
					£102		

**RURAL INDUSTRIES—continued.****REGULATIONS.**

1. The Competition, except where otherwise stated, is open to competitors from all parts of the United Kingdom. Societies or Institutes, as well as individuals, shall be allowed to compete.

2. Every exhibit must be the work either of the Exhibitor or of a member of the exhibiting Society or Institute.

3. An entry fee of 4s. for each exhibit is payable at the time of entry.

4. Exhibits will be received in the Showyard on Monday, the day before the opening of the Show, and up till 8 A.M. on Tuesday, the first day of the Show. Judging will commence at 9.30. A.M. on Tuesday. The section will be closed to the public during the judging. Exhibits shall not be removed till after the close of the Show.

5. Exhibits shall be entirely at the risk of exhibitors, who shall be solely responsible for delivery and removal of their own exhibits. In the event of neither the exhibitor nor a person with written authority from the exhibitor being present to place or remove exhibits, these will be placed and removed by men hired and paid by the Society; but this will be done on the understanding that the men are hired to do the work on behalf of the exhibitors and solely at their risk, and that the Society will be in no way responsible for expenses incurred or loss of or injury to exhibits by errors or accidents in placing, despatching, or conveying exhibits. A receipt signed by the exhibitor, on a form to be issued by the Secretary, must be delivered before any exhibit is handed over to the exhibitor or his or her representative.

6. Exhibitors shall be allowed to place with their exhibits a notice indicating where (in the Showyard or elsewhere) similar articles may be purchased.

*Special Entry Forms for Rural Industries Section.*

---



## HORSE SHOEING

Open to Shoeing-Smiths from any part of the United Kingdom.

Horses provided for this Competition cannot be entered in any other Class.

Class.	THURSDAY, AT 10 A.M.	Premiums.			
		£	£	£	£
1. Farm or Work Horses (Open Class) . . . . .		5	3	2	1

Class.	FRIDAY, AT 10 A.M.	Premiums.			
		£	£	£	£
2. Farm or Work Horses (Juniors under twenty-five years of age) . . . . .		5	3	2	1

PRIZE MONEY BY SOCIETY . . . . .	£22
<sup>1</sup> CONTRIBUTED . . . . .	£10

<sup>1</sup> A piece of Silver Plate will be given by Messrs Neilson & Cleland, Coatbridge, to the winner of First Prize in each Class.

A Gold Medal will be given by the Mustad Nail Company for best-made Shoe in each Class.

1. Entries must be made with the Secretary not later than 31st May. Entry Fee, 2s. 6d. for each Class. Entry Forms may be had on application.

2. The Competition will take place in the Showyard, and will be decided by points, time being taken into consideration. Each Competitor must make and fix one fore and one hind shoe, having previously taken off the old shoes. The shoes must be fullered, with low calkins and toe-pieces, fore and hind. Each Competitor must bring his own tools, nails, and a striker. The striker will not be allowed to touch the horse's hoof. The local Blacksmiths' and Farriers' Association will provide forges, anvils, flat-iron, and fuel. The horses to be shod will be provided by the Association. Forges and horses will be balloted for.

3. Any Competitor who does not attend at the Horse-Shoeing Stance and answer to his name at 10 A.M. on the day on which he is entered for competition, will be debarred from competing.

4. The Competitor and his striker will be admitted to the Yard free of charge on the day of Competition on presentation of tickets which will be sent to the Competitor for the purpose.

*Special Entry Forms for Horse Shoeing Classes.*

**ABSTRACT OF PREMIUMS.**

(Champion Medals given by THE MACKINTOSH OF MACKINTOSH.)

**GIVEN BY THE SOCIETY.**

Cattle	£1105	0	0
Horses	783	0	0
Jumping Competitions	147	0	0
Sheep	490	0	0
Goats	36	0	0
Pigs	285	0	0
Poultry	194	5	0
Dairy Produce	40	0	0
Bee Appliances and Honey	43	10	0
Wool	66	0	0
Rural Industries	102	0	0
Horse Shoeing	22	0	0
Medals to Breeders, &c.	20	0	0
Prizes for Timber <sup>1</sup>	20	0	0
	<hr/>		
	£3353	15	0

**CONTRIBUTED PRIZES, CUPS, &c.**

The Mackintosh of Mackintosh—Champion Medals	34	0	0
--	----	---	---

**[CATTLE.]**

Tweeddale Gold Medal	£25	0	0
*The late Mr William Duthie, Collynie, Tarves	150	0	0
*Mr Emilio R. Casares, jun., London	50	0	0
The Shorthorn Society, and 2 Medals	40	0	0
Mr Charles D. Stewart, Ballindarroch	10	10	0
Scottish Shorthorn Breeders	10	0	0
Shorthorn Society, and 2 Medals (Dairy Shorthorns)	20	0	0
Dairy Shorthorn Association	15	0	0
*Fife and Kinross Perpetual Gold Challenge Cup	200	0	0
*The late Sir George Macpherson Grant, Bart.	50	0	0
*The late Sir John Macpherson Grant, Bart.	50	0	0
Aberdeen-Angus Cattle Society	10	0	0
*Highland Cattle Society of Scotland	89	5	0
*Cowhill Champion Cup	30	0	0
Ayrshire Cattle Herd-Book Society	20	0	0
British Friesian Cattle Society	63	0	0
*Kinmount Challenge Cup	50	0	0
Red Poll Cattle Society	27	0	0
*Mrs Brown, Knockbrex	50	0	0
The Dun and Belted Galloway Cattle-Breeders' Association	28	0	0
	<hr/>		
	987	15	0

**HORSES.**

"William Taylor" Memorial Committee	£10	0	0
*Cawdor Challenge Cup	52	10	0
Hunters' Improvement and National Light Horse Breeding Society	10	0	0
Board of Agriculture for Scotland	40	0	0
*Paisley Perpetual Gold Challenge Cup	300	0	0
National Pony Society	20	0	0
"Four Lovers of Breed" (Shetland Ponies)	10	0	0
Shetland Pony Stud-Book Society (Medal).			
	<hr/>		
	442	10	0
	<hr/>		
Carry forward	£4818	0	0

<sup>1</sup> Grant to Royal Scottish Arboricultural Society for Prizes for Timber.

\* Challenge Prizes.

ABSTRACT OF PREMIUMS—*continued*

Brought forward	.	.	.	£4818	0	0
<b>SHEEP.</b>						
*Renfrewshire Perpetual Gold Challenge Cup	.	.	£250	0	0	
Major Alexander Browne of Callaly Castle	.	.	10	0	0	
Society of Border Leicester Sheep-Breeders	.	.	20	0	0	
*Challenge Cup for Oxford-Down Sheep	.	.	50	0	0	
Oxford-Down Sheep-Breeders' Association	.	.	21	0	0	
Suffolk Sheep Society	.	.	25	0	0	
Mr Dugald M'Kechnie, Glasgow	.	.	10	10	0	
						386 10 0
<b>GOATS.</b>						
Board of Agriculture for Scotland	.	.	£12	0	0	
*Lord Dewar	.	.	21	0	0	
*Mrs S. Macdonald, Garrochty	.	.	10	0	0	
						43 0 0
<b>PIGS.</b>						
National Pig-Breeders' Association	.	.	£20	0	0	
*Large Black Pig Society (Champion Cup £10, 10s., Cash £24)	.	.	34	10	0	
*Gloucestershire Old Spots Pig Society (Trophy £42, Cash £15)	.	.	57	0	0	
Cumberland Pig-Breeders' Association	.	.	20	0	0	
						131 10 0
<b>POULTRY.</b>						
*Proprietors of 'The Scottish Poultry News,' Aberdeen	.	.	.	.	.	50 0 0
<b>BEE APPLIANCES AND HONEY.</b>						
The Scottish Bee-Keepers' Association	.	.	.	.	.	10 10 0
<b>RURAL INDUSTRIES.</b>						
Central Council of Scottish Women's Rural Institutes	.	.	£24	0	0	
North-East and North-West Areas	.	.	12	0	0	
						36 0 0
<b>HORSE SHOEING.</b>						
Neilson & Cleland, Limited, Coatbridge	.	.	.	.	.	10 0 0
Mustad Nail Co. (2 Gold Medals).						
						<u>£5486 10 0</u>

\* Challenge Prizes.

JOHN STIRTON, *Secretary.*3 GEORGE IV. BRIDGE,  
EDINBURGH, March 1923.

## **SILVER MEDALS FOR NEW OR IMPROVED IMPLEMENTS.**

See Regulations on page 78.

---

## **FORESTRY EXHIBITION.**

For information as to above, apply to the Secretary, Royal Scottish Arboricultural Society, 8 Rutland Square, Edinburgh.

---

## **WOOL DEMONSTRATIONS.**

Arrangements are being made for Demonstrations on Wool, to be held in the Wool Shed on Wednesday, Thursday, and Friday, 18th, 19th, and 20th July.

---

**The Society's Show for 1924 will be held  
at Perth.**



# APPENDIX B

## LIST OF MEMBERS

OF

## THE HIGHLAND AND AGRICULTURAL SOCIETY OF SCOTLAND

ARRANGED ACCORDING TO COUNTIES  
AND SHOW DIVISIONS

*Revised to 23rd April 1923*

1923

By the Charter of 1834 the Society consists of two classes, Ordinary and Honorary or Corresponding Members. The number of Honorary or Corresponding Members resident in the United Kingdom must not exceed twenty, but with power to the Society to elect as Honorary Associates persons resident abroad, not subjects of his Majesty, who may have been benefactors to the Society, or who are distinguished for their skill in Art or Science, provided that the number of such Foreign Associates shall not exceed twenty.

By a Bye-law passed in 1873, with reference to the Supplementary Charter of 1856, successful Candidates for the Society's Agricultural Diploma were thereby eligible to be elected free Life Members of the Society. This Bye-law was rescinded in 1900.

Candidates for admission to the Society must be proposed by a Member, and are elected at the half-yearly General Meetings in January, and June or July. It is not necessary that the proposer should attend the meeting.

*Higher Subscription.*—The Ordinary Annual Subscription is £1, 3s. 6d., and the Ordinary Subscription for Life-Membership is £12, 12s. ; or, after ten annual payments have been made, £7, 7s.

*Lower Subscription.*—Proprietors farming the whole of their own lands, whose Rental on the Valuation Roll does not exceed £500 per annum, and all Tenant-Farmers, Secretaries or Treasurers of Local Agricultural Associations, Factors resident on Estates, Land Stewards, Foresters, Agricultural Implement Makers, and Veterinary Surgeons, and such other persons as, in respect of their official or other connection with agriculture, the Board of Directors may consider eligible, none of them being also owners of land to an extent exceeding £500 per annum, are admitted on a Subscription of 10s. annually, which may be redeemed by one payment of £7, 7s., and after eight annual payments of 10s. have been made, a Life Subscription may be purchased for £5, 5s., and after twelve such payments, for £3, 3s. Subscriptions are payable on election, and afterwards annually in January.

According to the Charter, "Any person elected an Ordinary Member of the Society who shall not have objected to his election, on the same being intimated to him by the Secretary, shall not be entitled to resign or withdraw his name as a Member of the Society, unless he shall have paid up his Life Subscription, or shall have previously settled and paid in Annual Contributions a sum equal to that fixed by the Society at the time of his election, to be paid by Members as the purchase of a Life Subscription in lieu and in redemption of the Annual Payments." The Life Subscription for a Member paying £1, 3s. 6d. is £12, 12s., and for a Member paying 10s., £7, 7s.

Members having Candidates to propose are requested to state whether the Candidate should be on the £1, 3s. 6d. or 10s. list.

Members of the Society receive the 'Transactions' free on application, and are entitled to consult the Chemist and Botanist at reduced rates—to apply for District Premiums and Long Service Medals—to report Ploughing Matches for the Medal—to free admission to the Showyard, and to exhibit Stock and Implements at reduced rates. Firms are not admitted as Members, but if one partner of a firm becomes a Member, the firm is allowed to exhibit at Members' rates.

Members having Candidates to propose are requested to send their names to JOHN STRATON, Esq., 3 George IV. Bridge, Edinburgh.

By a Resolution of the Directors, 2nd February 1887, the list of Members, arranged according to Counties, has been so made up that no Member shall vote in more than one Show Division for the nomination of Directors. Members finding any mistakes are requested to report the same to JOHN STIRTON, Esq., 3 George IV. Bridge, Edinburgh.

The following is the List of Counties constituting the Show Divisions :—

	PAGE
<b>1. Glasgow,</b> for the Counties of Argyll, Ayr, Bute, Lanark, and Renfrew,—	
Argyll . . . . .	5
Ayr . . . . .	7
Bute . . . . .	11
Lanark . . . . .	11
Renfrew . . . . .	21
<b>2. Perth,</b> for the Counties of Fife, Forfar (Western District), Kinross, and Perth (Perth Show District),—	
Fife . . . . .	24
Forfar (Western District) . . . . .	30
Kinross . . . . .	32
Perth (Perth Show District) . . . . .	33
<b>3. Stirling,</b> for the Counties of Clackmannan, Dumbarton, Perth (Stirling Show District), and Stirling,—	
Clackmannan . . . . .	39
Dumbarton . . . . .	40
Perth (Stirling Show District) . . . . .	41
Stirling . . . . .	44
<b>4. Edinburgh,</b> for the Counties of Edinburgh, Haddington, and Linlithgow,—	
Edinburgh . . . . .	49
East Lothian . . . . .	57
West Lothian . . . . .	60
<b>5. Aberdeen,</b> for the Counties of Aberdeen, Banff, Forfar (Eastern District), and Kincardine,—	
Aberdeen . . . . .	62
Banff . . . . .	71
Forfar (Eastern District) . . . . .	73
Kincardine . . . . .	74



**4**      *List of Counties constituting Show Divisions.*

**6. Dumfries, for the Counties of Dumfries, Kirkcudbright, and Wigtown,—**

Dumfries . . . . .	77
Kirkcudbright . . . . .	83
Wigtown . . . . .	87

**7. Inverness, for the Counties of Caithness, Inverness, Moray, Nairn, Orkney and Shetland, Ross and Cromarty, and Sutherland,—**

Caithness . . . . .	90
Inverness . . . . .	91
Moray . . . . .	94
Nairn . . . . .	96
Orkney and Shetland—	
Orkney . . . . .	96
Shetland . . . . .	97
Ross and Cromarty . . . . .	97
Sutherland . . . . .	99

**8. Border, for the Counties of Berwick, Peebles, Roxburgh, and Selkirk,—**

Berwick . . . . .	100
Peebles . . . . .	101
Roxburgh . . . . .	102
Selkirk . . . . .	105

**England and Wales . . . . .** 106

**Ireland . . . . .** 114

**The Colonies . . . . .** 114

**Foreign Countries . . . . .** 116

**Holders of Agricultural Diploma, Free Life Members.** 117

**Holders of First-Class Certificate in Forestry, Free Life Members . . . . .** 119

**Abstract. . . . .** 120

# LIST OF MEMBERS

ARRANGED ACCORDING TO COUNTIES AND SHOW DIVISIONS.

*The Members marked \* have been Presidents, and † Vice-Presidents.*

## HONORARY MEMBERS.

### Admitted

1898\* His Most Gracious Majesty THE KING  
1905 Craik, Sir Henry, K.O.B., M.P., C.B.,  
5A Deans Yard, Westminster, London  
1905 Elliott, Sir Thomas H., Bart., K.C.B., The  
Royal Mint, Tower Hill, London, E.  
1908 Ewart, Professor J. Cossar, M.D.,  
F.R.S., University, Edinburgh

### Admitted

1914 Hendrick, Professor James, Aberdeen  
1903 Ogilvie, F. Grant, C.B., Assistant Secre-  
tary, Board of Education, South Ken-  
sington, London, S.W.  
1903 Plunket, Right Hon. Sir Horace, P.C.,  
F.R.S., K.C.V.O., Kilteragh, Foxrock,  
Co. Dublin

## FOREIGN ASSOCIATES.

### Admitted

1903 Bang, Professor B., Copenhagen  
1914 Fischer, Professor Emil, Hessische Strasse 2, Berlin, N.  
1903 Stebler, Dr F. G., Zurich, Switzerland

## 1.—GLASGOW DIVISION.

### EMBRACING THE

COUNTIES OF ARGYLL, AYR, BUTE, LANARK, AND RENFREW

### ARGYLL.

#### Admitted

1898 AINSWORTH, Sir John Stirling, of Ardan-  
aiseig, Bart., Kilchrenan  
1919 Ainsworth, Thomas, yr. of Ardanaiseig,  
Kilchrenan  
1881 Allan, Alex., of Aros, Tobermory  
1905 Allan, Bryce, Linnthu, Tobermory  
1911 Anderson, John, B.Sc., N.D.D., Ivy  
Bank, Oban  
1876 Anderson, R. Lang, Airds, Appin—Free  
Life Member  
1901 Andrew, Matthew, Drimvore, Glassary,  
Lochgilphead  
1915 AROVLL, The Duke of, Inveraray Castle,  
Inveraray  
1906 Armstrong, Thomas J. A., Glenborro-  
dale, Acharacle, R.S.O.

#### Admitted

1893 Ballingall, Robert R., Estate Office,  
Ardkinglas, Inveraray  
1915 Beaton, John, Willowbank, Dervaig,  
Mull  
1901 Brown, Archibald, Lochgilphead Hotel,  
Lochgilphead  
1919 Brown, John, Kilmore, Oban  
1905 Bruce, Peter, Ach-na-Cloich, Connel,  
Argyll  
1881 Buchanan, Angus, last known address,  
Kilvarie, Connel  
1900 Buchanan, Frank H., Kalmeta, Con-  
nel  
1882 Cameron, Donald, last known address,  
Mossfield, Oban  
1898 Cameron, Duncan, Sheepknowe, Bun-  
cessan  
1923 Cameron, Martin, Invercoe, Glencoe

*List of Members.***Admitted**

- 1891 Campbell, Alexander E., The Oaks, Dalmally  
 1922 Campbell, Colin, of Jura, Jura House, Argyllshire  
 1894 Campbell, Lieut.-Col. Colin G. F., D.L., J.F., of Stonesfield, Glenakill, Tarbert, Lochfyne  
 1883 Campbell, Edward P., Colonel, 42nd Highlanders, Ardachuidh, Colintrave  
 1909 Campbell, Captain John, of Kilberry, Argyllshire  
 94 Campbell, John, Ardifuir, Kilmartin, Lochgilphead  
 1920 Campbell, John Archibald, Ardachy, Bunessan, Isle of Mull  
 1913 Campbell, John O., Doirechulin House, Dalmally  
 1910 Campbell, John Graham, yr. of Shirvan, Lochgilphead  
 1922 Campbell, Murdoch, Gruinart Farm, Gruinart, Islay  
 1914 Campbell, Peter, Inverleiver, Glenetive, Taynuilt  
 1920 Campbell-Preston, Colonel R. C., of Ardchattan, Taynuilt  
 1890 Campbell, Robert G. Graham, of Shirvan, Lochgilphead  
 1893 Clark, Francis William, of Ulva, Aros, Mull  
 1892 Coats, Major Andrew, Stonesfield, Tarbert, Lochfyne  
 1898 Colthart, Robert D., Achateny, Ardnarmurchan, Oban  
 1905 Colvill, John, Rockbank, Campbeltown  
 1899 Corson, Robert H., Bealach, Duror, R.S.O.  
 1885 Corson, Thomas, Auction Mart, Oban  
 1915 Craig, Hugh, c/o Mr Millar, Mains Farm, Carradale, Kintyre  
 1870 Cuddon-Fletcher, Bernard James, of Dunans, Colintrave  
 1907 Cullen, Robert, Dunlossett Estate Office, Bridgend, Islay  
 1920 Currie, James, LL.D., of Inverawe and Fannins, Taynuilt, ("Larkfield," Wardle Road, Edinburgh)  
 1919 Dargle, James, Farm Manager, Barsloisnach Home Farm, Kilmichael, Glasgarry, Argyll  
 1919 Dewar, Brig.-General James Edward, of Cladich, Inistrynich, Cladich, Argyllshire  
 1905 Dick, Matthew, Bank of Scotland, Campbeltown  
 1905 Doble, John, Clydesdale Bank, Dunoon  
 1921 Duncan, George W., Kinlochspelve, Craignure, Mull  
 1881 Duncan, R., Royal Hotel, Tighnabruich  
 1921 Fearnside, Captain J. A., M.R.C.V.S., Ballachulish  
 1897 Fletcher, John A., Laudale, Strontian  
 1874 Forsyth, James N. M., of Quinish, Tobermory  
 1898 Fraser, Charles James Roy, of Lochavich, Kilchrenan  
 1920 Fraser-Campbell, Evan, of Dunmore, Tarbert, Loch Fyne  
 1895 Fraser, Hugh, Auchinadrain, Taynloan  
 1914 Galbraith, Robert, Ardnacross, Aros, Oban  
 1889 Gemmell, John, Munaroy House, Campbeltown  
 1915 Gilchrist, Duncan, Trodigaal, Campbeltown  
 1914 Gilchrist, John, Lochend House, Campbeltown

**Admitted**

- 1920 Gillespie, Donald, Corsapool, Gruinart, Islay  
 1913 Gillespie, Donald, Craighens Farm, Gruinart, Islay  
 1920 Gillespie, John, Octofad, Port Charlotte, Islay  
 1913 Gillies, Daniel, Balegreggan, Campbeltown  
 1891 Gillies, John, Barnacarry, Kilmilver, Oban  
 1901 Graham, Alexander, Tonrioch, Campbeltown  
 1915 Graham, Dugald, West Backs, Campbeltown  
 1899 Graham, Robert F., of Skipness, Whitehouse  
 1920 Gray, John Braidwood, Cour, Carradale, Argyllshire  
 1894 Greig, James, 60 Main Street, Campbeltown  
 1912 Guthrie, Mrs Olive, of Torosay, Craignure, Isle of Mull  
 1918 Hall, Major William M'Alister, of Torrisdale, Carradale, Argyll  
 1920 Harvey, John H., of Craig Lodge, Millhouse  
 1896 Hay, Colin E., Ardbeg, Islay  
 1923 Hunter, Ian W., Laphroaig, by Port Ellen, Islay  
 1917 Hunter, James Adam, Kilmichen, Aros, Mull  
 1889 Hunter, James A., Machribeg, Campbeltown  
 1923 Kethl, Robert B., Glenbyre, Lochbule, Mull  
 1918 Kerr, John, Neriby, Bridgend, Islay  
 1921 Laidlaw, Miss, c/o Watt, Torlin, Oban  
 1915 Lambie, Thomas, Laund Steward, Glegorm, Tobermory  
 1921 Lamont, John, Ardyne, Toward  
 1912 Lamont, Sir Norman, of Knockdow, Bart., Toward Point  
 1905 Leschallas, Major John H. P., Glenfinart, Ardentenny, Greenock  
 1914 Lithgow, Miss, Glengorm Castle, Tobermory  
 1883 Lothian, James, Rockwood, Campbeltown  
 1905 M'Arthur, Archibald, Kilmory Farm, Lochgilphead  
 1897 MacArthur, D. G., M.D., Braehead, Oban  
 1905 M'Arthur, Neil, Meadows, Campbeltown  
 1913 M'Beath, D. K., F.S.I., Ballochyle Estate Office, Sandbank  
 1907 MacColl, Donald, Creagan, S.O., Oban  
 1881 Macdiarmid, H., Island House, Tiree, Oban  
 1902 Macdonald, Harry L., of Dunach, Oban  
 1919 Macdonald, Dr Reginald, Inverinate, Salen, Aros, Mull  
 1908 Macdonald, T. Martin, of Barguilean, Taynuilt  
 1905 MacDougall, Major A. T., of Dunollie, Oban  
 1921 MacDougall, Colin L., Aldertree Cottage, Clachan Seil, by Oban  
 1893 M'Dougall, John, Garvie, Glendaruel, Colintrave  
 1873 Macfarlane, Lewis, Invermay, Douglas Pier, Lochgill  
 1922 MacGillivray, Donald, Estate Manager, Blarreen Ardchattan  
 1923 M'Gill, A. A., Town-Clerk, Clydesdale Bank, Tobermory  
 1883 MacGregor, Donald, Solicitor, Oban  
 1920 Macgregor, Captain Duncan, Agent, Clydesdale Bank, Oban  
 1914 M'Gregor, Duncan, Soroba Farm, Oban

## Admitted

- 1914 M'Innes, Hugh, Lower Gyle, Kerrera, Oban  
 1921 M'Innes, Miss, Arriogan, Oban  
 1906 M'Intyre, Alexander, Kilbridmore, Glendaruel, S.O.  
 1920 M'Intyre, Alexander C., Balulva, Ballygrant, Islay  
 1923 Mackeand, Peter Alexander, Scoor, Bunessan, Mull  
 1891 Mackenzie, J. H. Munro, of Mornish, Tobermory  
 1914 MacKillop, James, Islay Estates Office, Bridgend, Islay  
 1920 Mackinnon, Miss Gladys M., of Ronachan, Clachan, Kintyre (22 Hyde Park Gardens, London, W. 2)  
 1920 M'Kinnon, John, Castleton, Innellan  
 1918 M'Lachlan, Dr Donald, Ballinaby, Islay  
 1921 MacLachlan, John A., Bealach, Duror  
 1886 MacLachlan, of MacLachlan, Castle Lachlan, Strachur  
 1907 M'Laine, Alexander, Glenorchy, Oban  
 1920 M'Laren, Captain A. C., Torra'-Chlachan, Dervaig, Mull  
 1915 M'Latchie, R. John, Bellfield, Campbeltown  
 1906 Maclean, A. T. H., of Ardgour  
 1897 Maclean, Roderick, Gomitra, Aros, Isle of Mull  
 1882 M'Nab, Robert, Beaconsfield, Dunoon  
 1901 M'Neill, D. B., Lochhead, Ormsary, Ardrishaig  
 1922 Macpherson, Robert, Cluny House, Oban  
 1907 Macrae, Kenneth, Seaforth, Oban  
 1905 M'Vean, John, Connel Ferry  
 1922 MacVicar, R. A., Solicitor, 73 George Street, Oban  
 1903 Malcolm, Colonel, of Poltalloch, C.R., Lochgilphead  
 1920 Mathieson, J. G., Poltalloch Estate Office, Kilmartin  
 1905 Maxwell, Robert, Baraskomil, Campbeltown  
 1921 Maze, Mrs, of Achnacloch, by Connel, Argyll  
 1894 Melles, Joseph, Gruline, Aros, Isle of Mull  
 1901 Miller, Robert, Torbhlaren, Glassary, Lochgilphead  
 1905 Mitchell, Hugh, Seaford, Campbeltown  
 1908 Mitchell, John, Killochonoeh, Lochgilphead  
 1915 Mitchell, Samuel, Dalavaddy, Campbeltown  
 1915 Mitchell, Samuel, Killeonan, Campbeltown  
 1915 Mitchell, Thomas, Lango, Kilkenny, Campbeltown  
 1905 Montgomery, James, M.R.C.V.S., Ardrishaig  
 1921 Morris, Colonel D. O., of Killundine, Drimmin  
 1895 Morris-Cheape, Major C. H., of Killundine, Argyllshire  
 1910 Morrison, Hugh, of Islay, Bridgend, Islay  
 1878 Moubray, J. M., Strone House, Strone  
 1905 Murray-Allan, R. A., of Glenfeochan, Kilmory, Oban  
 1922 Newton, Lieut.-Commander M. G., R.N., of Rahoy, Morvern  
 1919 Nicholson, Neil, Auchgoyl, Mill House, Argyll  
 1922 Noble, J. H. B., of Ardkinglas, Inveraray  
 1915 Ollar, Alexander, Kilkerran, Campbeltown  
 1887 Onda, Sir A. J. Campbell, of Kilmory, Bart., Lochgilphead

## Admitted

- 1918 Ralston, R. Y., Barbreck Cottage, Campbeltown  
 1896 Ramsay, Iain, of Kildalton, Port Ellen, Islay  
 1918 Robertson, Alexander D., Argyll Chemical Works, Oban  
 1919 Robertson, Ian (Alex. Robertson & Sons), Argyll Chemical Works, Oban  
 1915 Ronald, Andrew, Dalmore, Campbeltown  
 1911 Rose, John C., Resipole Farm, Strontian  
 1906 Ross, Alexander, General Merchant, Kilmartin  
 1921 Russell-Fergusson, Mrs H., Ardtur, Appin  
 1914 Sandlands, John, Castles, Lochawe  
 1898 Scarlett, W. J. Yorke, of Gigha  
 1906 Sellar, Gerard Craig, Ardtornish, Morvern, Oban  
 1907 Sellar, Mrs Craig, of Ardtornish, Morvern, Oban  
 1920 Sloan, Alfred David, Blairbeg, Blairmore  
 1922 Smith, Duncan, Auchallander, Bridge of Orchy  
 1911 Smith, Gilbert K., Ardentallen, Oban  
 1915 Smith, William J., Largiebeg, Kilkenny, Kintyre  
 1905 Stalker, P., last known address, Auchadunan, Inveraray  
 1916 Steedman, J. W. E., S.S.C., Estates Office, Oban  
 1894 Stewart, Archibald, Parkfergus, Campbeltown  
 1915 Stewart, William M., Darlochan, Campbeltown  
 1903 Struthers, Archibald, Dunolliebeg, Oban  
 1911 Tedcastle, Robert J., Auch Lodge, Bridge of Orchy  
 1920 Thomson, John, Bruichladdich, Islay  
 1900 Turner, Charles, Innellan  
 1920 Turner, Lily C., Kilchamaig, Whitehouse  
 1905 Weir, James, Baligreggan, Campbeltown  
 1923 Weir, James H., Invernahyle, Appin  
 1906 Weir, John, Gallowhill, Campbeltown  
 1876 Whyte, D. C., Sealladh Aluinn, Dunoon  
 1899 Young, Robert, Drumore, Campbeltown  
 1913 Young, Robert, Drumn, Campbeltown  
 1887 Young, William, Glenraig, Campbeltown  
 1899 Younger, C. A. J., Benmore, Kilmun

## AYR.

- 1882 AILSA, The Marquis of, Culzean Castle, Maybole  
 1897 Aird, David, 80 Portland Street, Kilmarnock  
 1915 Aird, D. J. C., 28 Witch Road, Kilmarnock  
 1919 Aitken, James, Farmer, Glenacre, Large  
 1922 Alexander, Andrew, Holmes Farm, Drybridge, Kilmarnock  
 1918 Alexander, Hugh, Rodgerton, Auchinleck  
 1914 Allan, James, The Cottage, Kilbirnie  
 1922 Allan, James, West Kirkland, Dalry  
 1909 Allison, Hugh, Redholm, Dundonald  
 1909 Alston, George, Londonhill, Darvel  
 1922 Anderson, Andrew, Newbyre, Hurlford  
 1922 Anderson, William, Craigends, Fenwick  
 1907 Andrew, James, Fairview, Prestwick  
 1897 Angus, Robert, of Ladykirk, Monkton  
 1905 Angus, R. L., Ladykirk, Monkton  
 1908 Arthur, Alexander, Benston, 10 Carrick Avenue, Ayr

**Admitted**

- 1923 Auchmuty, John, Alticaue, Pinwherry  
 1913 Ballantyne, Peter, Woollahra, Troon  
 1919 Barbour, John, c/o Thomas Barbour, Broomhill, Drybridge, Kilmarnock  
 1922 Barr, Allan, Hobeland, Monkton  
 1899 Barr, Thomas, Hobeland, Monkton  
 1920 Begg, John, Braehead, Dalry  
 1919 Bell, Captain Edwin A., 289 High Street, Ayr  
 1914 Bell, Sir James, Bart., C.B., of Montgreenan, Kilmarnock  
 1918 Black, Malcolm, Estates Office, Halks-hill, Largs  
 1897† Blair, Colonel Frederick G., C.B., of Blair, Dalry  
 1920 Bone, David R., Border, Saltcoats  
 1920 Bone, Jack K., Monktonhill, Monkton  
 1914 Bone, William, Auchencloigh, Galston  
 1920 Bone, William, East Sanquhar, St Quivox, Ayr  
 1920 Bone, W. K., Shalloch Park, Girvan  
 1911 Borland, James, Mossbog, Mauchline  
 1920 Borland, Robert, Rosevale Cottage, Stewarton  
 1899 Boswell, Lieut.-Colonel J. D., of Garrallan, Cumnock (41 Northumberland Street, Edinburgh)  
 1900 Brackenridge, Alexander, Ontliank, Kilmarnock  
 1890 Brodie, W. A. G., c/o Mrs Wilson, Burton Farm, Ayr  
 1904 Brown, Francis Edward, Glengennet, Barr, Girvan  
 1920 Brown, Hugh, Ochiltree Mains, Ochiltree  
 1922 Brown, James, Bourtreebush, Tarbolton  
 1920 Bruce, Alexander, Clydesdale Bank House, Kilbirnie  
 1914 Bruce, John, Tofts Grain Mills, Dalry  
 1908 Bryan, Robert, Barskimming Mains, Mauchline  
 1922 Bulloch, James, N.D.A., C.D.A., Holmes Farm, Kilmarnock  
 1907 Caldwell, David, jun., Pennyfadzeoch, Cumnock  
 1906 Caldwell, James, Cockhill, Dundonald  
 1905 Caldwell, James C., 10 Dalblair Road, Ayr  
 1894 Campbell, James Archibald, of Craigie, Ayr  
 1923 Campbell, Robert P., 9 Wilson Avenue, Kilmarnock  
 1920 Cassillis, Earl of, Culzean, Maybole  
 1895 Caven, James, Roxburgh, St Ninians, Prestwick  
 1896 Clark, Alexander, Auchanlongford, Sorn  
 1920 Clark, Colin, Currah, Girvan  
 1895 Clark, James, Carskeoch, Patna  
 1921 Coburn, Alexander B., Maidens Public School, by Maybole  
 1920 Cochran, James, N.D.A., Superintendent and Farm Manager, West of Scotland Agricultural College, Holmes Farm, Kilmarnock  
 1921 Corbett, The Hon. T. G. P., Rowallan, Kilmarnock  
 1897 Craig, James, Cunning Park, Ayr  
 1919 Craig, James, Netherwood, Muirkirk  
 1915 Craig, John, Guelt, Old Cumnock  
 1895 Craig, John, Greystones, Ayr  
 1921 Craig, Robert, Crooch, Waverley Place, Saltcoats  
 1919 Crawford, Hugh, Newlands Farm, Monkton  
 1919 Crawford, James, Dowhill, Girvan  
 1896 Crawford, John, Manraehead, Beith  
 1884 Crawford, John W., Largs  
 1905 Crawford, Robert, Drumbeg, Turnberry  
 1922 Cunningham, A., Cragston, Stewarton

**Admitted**

- 1920 Cuthbert, James N., Norwood, Dunlop  
 1922 Dalziel, Ralph K., Carskeoch, Patna  
 1918 Dempster, James, Ladyton, Galston  
 1889 Dempster, James R., of Ladyton, Galston  
 1922 Dickson, Alex. Bruce, M.O., N.D.A., N.D.D., 16 Belmont Avenue, Ayr  
 1922 Dinning, Thomas, Auchencloze Farm, Irvine  
 1913 Donald, James D., Annandale, Cross-house  
 1908 Donald, John H., Furroch Farm, Hurlford  
 1890 Donald, William, Fardale Hill, Kilmarnock  
 1922 Donald, William, jun., Parkiston Farm, Newmilns  
 1922 Donald, William, sen., Parkiston Farm, Newmilns  
 1923 Douglas, John, Ashmark, New Cumnock  
 1899 Douglas, Thomas A., M.R.C.V.S., Prestwick  
 1920 Dow, William, Dubbs Cottage, Dalrymple  
 1918 Drennan, John, Hillhouse, Galston  
 1913 Drummond, Charles, Letterpin, Girvan  
 1901 Drummond, Robert, Pocknave, Hurlford  
 1901 Drummond, R. J., West of Scotland Agricultural College, Kilmarnock  
 1920 Dubs, Captain C. I. A., Cambusdoon, Ayr  
 1910 Dunbar, John D., Furnace Road, Muirkirk  
 1922 Duncan, John, Castlehill, Maybole  
 1887 Dunlop, Andrew T. L., Lyonston, Maybole—*Free Life Member*  
 1912 Dunlop, G., jun., Ganneshill, Stewarton  
 1869 Dunlop, Gabriel, Castle Farm, Stewarton  
 1896 Dunlop, James (Board of Agriculture for Scotland), Midland, Prestwick  
 1906 Dunlop, James, Oldhall, Fenwick  
 1920 Dunlop, James T., Bringan, Kilmarnock  
 1875 Dunlop, Quintin, Morriston, Maidens, Ayr  
 1904 Dunlop, Quintin, jun., Greenan, Ayr  
 1897 Dunlop, William, Dunure Mains, Ayr  
 1914 Dunlop, William, Morriston, Maidens, Ayr  
 1923 Dunlop, William T., Gree, Fenwick  
 1907 Dykes, James, Hillhouse, Troon  
 1909 EGLINTON AND WINTON, Earl of, Redburn, Irvine  
 1889 Fergusson, John B., Balgarth, Ayr  
 1909 Findlay-Hamilton, George Douglas, of Weasport and Carnell, Hurlford  
 1921 Findlay-Hamilton, Mrs G. I., M.B.E., of Carnell, Hurlford  
 1922 Finnie, John, Camphill, Dalry  
 1920 Forrest, John, Alton Hill, Kilmaurs  
 1920 Fowler, William S., Factor, Lanfine Estate Office, Newmilns  
 1914 Frew, Thomas, St Elmo, Ayr  
 1914 Galloway, James N., The Bungalow, Ayr  
 1920 Garven, James, Dalmusternock, Kilmarnock  
 1920 Garven, John Hall, Barrodder, Beith  
 1885 Gemmell, Andrew, Lugton Ridge, Beith  
 1921 Gibb, Charles, Brocklehill, Annbank, Ayr  
 1923 Gibson, James, Cowgrove, Galston  
 1904 Gibson, John, Dalarath, Fenwick  
 1922 Gillan, Robert, Lochend Farm, Beith  
 1913 GLENARTHUR, Lord, Fullarton, Troon

## Admitted

1913 Goff, William H., Lainshaw, Stewarton  
 1906 Goldie, David, Barassie Farm, Troon  
 1923 Goldie, Thomas, Old Hall, Irvine  
 1920 Goudie, John W., Union Bank, Kilmarnock  
 1914 Gray, James, Crofthead, Kilmaurs  
 1897 Hamilton, James, Dunduff, Dunure, Ayr  
 1908 Hamilton, James, Langmuir, Kilmaurs  
 1921 Hannah, John James Miller, Girvan Mains, Girvan  
 1889 Hannah, John M., Girvan Mains, Girvan  
 1897 Hendrie, John, Annbank House, Annbank  
 1919 Hendry, Robert, The Mains, Fairlie  
 1918 Hight, John, Wardend, Stewarton  
 1921 Hodge, Robert, Loudoun Mains Farm, Newmilns  
 1909 Houlson-Craufurd, Brig.-General John Arch., Dunlop House, Dunlop  
 1913 Houlson-Craufurd, Mrs Eleanor Louise, of Dunlop House, Dunlop  
 1899 Houldsworth, Lieut.-Col. W. T. R., of Kirkbride, Maybole  
 1922 Houldsworth, Mrs W. T. R., Kirkbride, Maybole  
 1910 HOWARD DE WALDEN, Lord, The Dean, Kilmarnock  
 1896 Howatson, Charles Nile, of Glenbuck, Glenbuck  
 1922 Howatson, David, Shawsmill, Hurlford  
 1897 Howie, James, Hillhouse, Kilmarnock  
 1923 Howie, James (Robert Howie & Sons), Dunlop  
 1923 Howie, James, jun., Eglinton Mains, Irvine  
 1920 Howie, James A., Fairfield Mains, Monkton  
 1897 Howie, John, 58 Alloway Street, Ayr  
 1894 Howie, M. G., Towerlands, Irvine  
 1921 Howie, Thomas, Fulshaw Wood, Ayr  
 1899 Howie, Thomas, jun., B.O.A.S., Prestwick  
 1919 Howie, William, Brieryside Farm, Monkton, Ayr  
 1917 Hunter, A. Thornton (Alexander Jack & Sons, Ltd.), Maybole  
 1915 Hunter, Hugh, Montfode, Ardrossan  
 1899 Hunter, John S., Foulton, Monkton  
 1915 Hunter, Robert, Montfode, Ardrossan  
 1919 Hunter, William, Templand Mains, Cumnock  
 1918 Hyslop, William, Auchensoul, Barr, Girvan  
 1897 Hyslop, William, Knockycold, Barrhill  
 1904 Hyslop, William, of Bank, New Cumnock  
 1895 Inglis, Charles D., Stair House, Tarbolton Station  
 1911 Inglis, David, Stair House, Tarbolton Station  
 1877 Inglis, Robert, Loveston House, Girvan  
 1897 Jackson, John, Ovington, Harling Drive, Troon  
 1885 Johnstone, James, Mereworth, Prestwick  
 1922 Kelly, William, 6 Belleisle Cottages, Alloway  
 1919 Kennedy, John, Braiden View, Beith  
 1903 Kennedy, Major Norman, D.S.O., Monkwood, Ayr  
 1923 Kennedy, William, Leigh Milton Mill, Crosshouse  
 1919 Kerr, John, Alton, Galston  
 1913 Kerr, John H., Boghall, Beith  
 1922 Kerr, Matthew, Woodhead, Newmilns  
 1905 Kerr, Matthew, c/o James Craig, Ltd., Auctioneers, Ayr

## Admitted

1897 Kerr, William, Houdston, Girvan  
 1923 Kilpatrick, Alexander S., Smithston, Patna  
 1896 Kilpatrick, James, Craigie Mains, Kilmarnock  
 1921 King, Captain Hugh, Ledeameroch, Kilwinning  
 1897 Knox, Sir James, Place, Kilbirnie  
 1897 Laidlaw, T. K., last known address, Barra House, Largs  
 1910 Latta, William, Boylston, Cumnock  
 1921 Lennox, William M. (A. M'Lelland & Son), Portland Street, Kilmarnock  
 1895 Lindsay, Thomas C., Aitkenbrae, Monkton, Ayrshire  
 1921 Littlejohn, Robert, Genoch Farm, Ayr  
 1920 Logan, Andrew, Overton Farm, Dronagan  
 1914 Logan, John, Bargenoch, Dronagan  
 1915 Logan, Thomas, Low Milton, Maybole  
 1922 Logan, William, South Craig, Hollybush, Ayr  
 1921 Longwill, William, Hawhill, Dalry  
 1920 M'Andrew, C. G., Borland, Kilmarnock  
 1920 Macaulay, Alexander, Braehead, Ayr  
 1897 M'Candie, Donald, The Bungalow, Cumnock  
 1911 M'Connel, John W., Knockdolian, Colmonell  
 1920 M'Cosh, James, Factor, Swinlees, Dalry  
 1913 M'Creadie, Andrew, Bellinore, Pinwherry, Girvan  
 1913 M'Cubbin, John Gillespie, King's Arms Hotel, Maybole  
 1905 M'Cubbin, William D., Lochlands, Maybole  
 1914 M'Culloch, John, Laggan, Ballantrae  
 1888 Macdonald, D., Springfield, Largs, Ayrshire  
 1917 M'Fadzean, Hugh B. (Alexander Jack & Sons, Ltd.), Maybole  
 1918 M'Fadzean, William, Tourville, 35 Dundonald Road, Kilmarnock  
 1922 M'Gill, James, North Millburn, Montgreenan, by Kilmarnock  
 1918 M'Gill, John Finlayson (M'Gill & Smith, Ltd.), Kyle Street, Ayr  
 1910 M'Gregor, William, Carnigillan West, Tarbolton  
 1920 M'Intyre, Dugald, Poteath, West Kilbride  
 1919 M'Kay, John, Springbank, Monkton  
 1919 M'Kellar, Quintin, Farmer, Tourgill, Largs  
 1905 Mackenzie, Hugh, yr. of Dundonnell, Dundonnell  
 1913 M'Kerrow, Thomas, Craikland, Troon  
 1896 MACKIE, Sir P. Jeffrey, Bart., Corraith, Symington, Kilmarnock  
 1919 M'Laschan, William, Borland Farm, Old Cumnock  
 1922 M'Millan, Robert, Burnbank, Dalrymple  
 1921 MacMorland, Grant, High Craighead, Girvan  
 1910 Macrae, William, Solicitor, Town Clerk's Office, Stewarton  
 1922 Marshall, George, Greenhead, Gateside, Beith  
 1922 Matthew, John M., Girthill, Saltcoats  
 1923 Meikle, D. A., Camregan, Girvan  
 1896 Meikle, John, Camregan, Girvan  
 1923 Meikle, Martin J. W., Clockston, Tarbolton  
 1919 Mensies, John, Holehouse, Largs  
 1903 Middleton, James, Estate Office, Braehead, Kilmarnock  
 1909 Millar, James, South Craig, Kilmarnock

## Admitted

- 1922 Miller, James, Bloemrig, Stewarton  
 1878 Mitchell, Andrew, Broomfield, 9 Broomfield Road, Ayr  
 1911 Mitchell, Andrew (Walter Mitchell & Sons), 14 Main Street, Ayr  
 1922 Mitchell, D. R., Main Street, Auchinleck  
 1898 Mitchell, James, Springfield, Muirkirk  
 1897 Mitchell, Matthew, 9 Belmont Avenue, Ayr  
 1920 Mitchell, Walter (W. Mitchell & Sons, Ltd.), Ayr  
 1916 Mitchell, William, Bannan, Straiton, Ayr  
 1906 Mitchell, William, Grougar Mains, Kilmarnock  
 1907 Montgomerie, A. W., Lessnessock, Ochiltree  
 1893 Morton, Alexander, Gowanbank, Darvel  
 1919 Morton, Charles N., Clydesdale Bank Limited, Cumnock  
 1914 Morton, David, Busby Farm, Crosshouse, Ayrshire  
 1922 Morton, George, jun., Laigh Newton Farm, Darvel  
 1922 Morton, Robert, Townhead, Newmilns  
 1892 Morton, William, Highbowhill, Newmilns  
 1919 Motherwell, A. J., Glencairn Mill, Kilmarnock  
 1920 Murchie, Alex. D., Bogside, Drongan  
 1922 Murdoch, William, Buntounhill, Kilmaurs  
 1916 Murray, Jacob, Daljig, New Cumnock  
 1911 Murray, John, Muir, Cumnock  
 1922 Murray, John, 22 Millar Road, Ayr  
 1920 Neill, James Hamilton, Shawhill, Hurlford  
 1913 Neilson, Hugh, of Chapelton, Stewarton  
 1884 Niven, Richard, Airlie, Ayr  
 1897 Page, Andrew D., Culzean Home Farm, Maybole  
 1838 Paton, Hugh, Carlton, Kilmarnock  
 1920 Paton, Hugh Stewart, Templetonburn, by Kilmarnock  
 1899 Paton, R. Johnston (W. & T. Samson), Kilmarnock  
 1907 Patrick, Andrew C., Greenbank, Dalry, Ayrshire  
 1920 Patrick, John A., Greenbank, Dalry  
 1897 Pearson, J. M., F.S.I., 61 John Finnie Street, Kilmarnock  
 1906 Pollock, Andrew, Engineer, Mauchline  
 1922 Ramage, David, Lugtounridge Farm, Beith  
 1922 Ramsay, William M., East Carniggan, Tarbolton  
 1922 Rawson, Walter Amos, Secretary, Craigie Farmers' Society, Craigie, by Kilmarnock  
 1896 Reid, David H., Engineer, Ayr  
 1898 Richmond, Robert, *last known address*, 29 Woodfield Road, Ayr  
 1923 Robb, Peter, Yonderhouses, Dalry  
 1914 Robb, William, Hindesward, Old Cumnock  
 1901 Robertson, Alexander B., Dean Lodge, Kilmarnock  
 1922 Robertson, Mrs. G., Sandhills, Monkton  
 1902 Robertson, Philip, M.R.A.C., *last known address*, Sandhills, Monkton  
 1922 Rodger, Robert, West Mains, Kilbirnie  
 1914 Ross, Hugh, Pennymore, Ochiltree  
 1919 Russell, Thomas, Royal Bank of Scotland, Cumnock  
 1916 Scott, William, Dalfram, Muirkirk  
 1919 Semple, Robert, Netherton, Dalrymple  
 1922 Seton, James, Shewalton Mains, Irvine

## Admitted

- 1920 Sharp, A., Kilmory, Stevenston, Ayr  
 1893 Shaw, D. W., Blackhouse, Ayr  
 1906 Shaw, James Edward, County Clerk, Ayr  
 1919 Sillar, Charles W. R., Caldronhill, Craigie, Kilmarnock  
 1919 Sillars, Hugh, Whiteside Farm, Monkton, Ayr  
 1921 Sloan, George, Downan, Ballantrae  
 1922 Sloan, James, Dormlerton, Tarbolton Station  
 1913 Sloan, James, Mainholm Farm, Ayr  
 1921 Smith, David, Kilmaurs Mains, Kilmarnock  
 1903 Smith, George, Mount Hamilton, Ayr  
 1913 Smith, John, Bruntwoodhill Farm, Galston  
 1903 Smith, John, Kilmaurs Mains, Kilmarnock  
 1912 Smith, R., Middleton, Dunlop  
 1920 Smith, Robert, East Broomlands, Irvine  
 1914 Smith, Thomas, The Castle, Maybole  
 1922 Smith, William, Whatriggs, Riccarton, Kilmarnock  
 1879 Speir, Robert, Rosebank, Largs  
 1913 Speir, William, Burn Farm, Dalry  
 1906 Spiers, John G., Dyke, Dundonald  
 1905 Steel, John, Alton Albany, Barr  
 1914 Steel, Matthew, Stonecassay, Symington, Kilmarnock  
 1904 Steele, John, Shaw, Kilmaurs  
 1885 Stevenson, Allan, Architect, Ayr  
 1913 Stevenson, Allan, Parkhill Farm, Mauchline  
 1919 Stevenson, Andrew Harvey, Lagg, Ayr  
 1913 Stevenson, David, Changue Farm, Cumnock  
 1915 Stevenson, James Hyslop, Rottenyard, New Cumnock  
 1888 Stevenson, John, Woodland, Girvan  
 1922 Stevenson, John, Jeanfield, Symington, Kilmarnock  
 1919 Stevenson, John S., Balig, Ballantrae  
 1906 Stevenson, Robert, Boghead, Galston  
 1909 Stevenson, William, Crossburn, Troon  
 1913 Stevenson, William, Royal Bank, Ardrossan  
 1911 Stewart, Major J. C. (Fasnaclloch), 8 Park Circus, Ayr  
 1923 Struthers, Alexander, Boylston Farm, Cumnock  
 1919 Struthers, Robert, Ramageton, Hurlford  
 1919 Symington, James, Kersapark Farm, Hollybush, Ayr  
 1894 Tannahill, Robert D., National Bank Buildings, Kilmarnock  
 1919 Tannock, Andrew, Underhills Farm, Craigie, Kilmarnock  
 1920 Tannock, James, The Place, Kilmaurs  
 1906 Taylor, William, Fortacres, Dundonald  
 1922 Templeton, George, Catcraig, Craigie  
 1881 Tennant, James, 1 Marchmont Road, Ayr  
 1922 Tennant, James R., Tour Gardens, Kilmaurs  
 1922 Thomson, Colin, Brae of Auchendrane, by Ayr  
 1919 Tinsley, Joseph, Burns Avenue, Kilmarnock  
 1886 Tivendale, William D., Burnhouse, Galston  
 1905 Todd, George, Trochrague, Girvan  
 1905 Todd, Mrs. George, Trochrague, Girvan  
 1913 Todd, Hugh, Harperland, Dundonald, Kilmarnock  
 1884 Turner, J. H., Portland Estate Office, Kilmarnock

**Admitted**

- 1904 Tyre, James, Templeton, Dundonald  
 1923 Tytler, William, Doggartland Estate Home Farm, Dalry  
 1928 Urquhart, John, Grain Merchant, Kilwinning  
 1922 Walker, Robert, Langland, Kilmaurs  
 1921 Walker, William, Mossdale, Dalmeilington  
 1912 Wallace, David, Auchrain, Mauchline  
 1887 Wallace, H. R., Cloncaird, Kirkmichael, Ayr  
 1918 Wallace, John, c/o Messrs Dixon & Wallace, Milburn, London Road, Kilmarnock  
 1919 Wardrop, David D., Knockterra Farm, Old Cumnock  
 1908 Wardrop, Patrick, Garlaig, Cumnock  
 1919 Wardrop, Robert R., Bankend Farm, Old Cumnock  
 1897 Watson, Alex., Barboigh, Mauchline  
 1920 Watson, John N., Tareigin, Coylton  
 1920 Watt, Hugh, Darwhilling, Kilmarnock  
 1923 Whiteford, John, Millrig Farm, Skelmorlie  
 1894 Wilkinson, John, West Park, Skelmorlie  
 1921 Williamson, Andrew Craig, 24 Millar Road, Ayr  
 1922 Wilson, Alexander, Foreside Farm, Belth  
 1919 Wilson, Andrew, Finlayston, Ochiltree  
 1923 Wilson, John, Fall Mill, Tarbolton  
 1922 Wilson, Marshall L., Factor, Ladykirk Estates Office, Monkton  
 1922 Woodburn, Alexander, Barweys, Mauchline  
 1922 Woodburn, Andrew, Holehouse, Galston  
 1923 Woodburn, Hugh, Killoch, Galston  
 1905 Woodburn, Robert, Whitehill, Hurlford  
 1918 Wyllie, Alexander, Mossiel, Mauchline  
 1922 Wyllie, George D., Glascock Farm, Fenwick, Kilmarnock  
 1920 Wyllie, William, Dalry  
 1903 Young, Alexander, Muirhouse, Crosshouse, Kilmarnock  
 1913 Young, A. R., 19 Dalblair Road, Ayr  
 1896 Young, H. S. M., Heathfield, Irvine  
 1910 Young, John, Skerrington Mains, Hurlford  
 1922 Young, Robert, Palmyra, Falkland Park, Newton-on-Ayr  
 1915 Young, William, Rench, Darvel  
 1878 Young, William, Mainholm, Drumley, Annbank Station  
 1914 Young, William, Threepwood, Galston

**BUTE.**

- 1870 Allan, James, Clauchlands, Lam-lash, Arran  
 1912 Anderson, James, sen., Ashgrove, Marine Drive, Rothesay  
 1897 Bannatyne, John, The Hotel, Lam-lash  
 1920 Bone, James, jun., Glen Kiln, Lam-lash, Arran  
 1907 Brown, William, Shedock Farm, Shiskine, Arran  
 1903 (Butt), Marquis of, Mount Stuart, Rothesay  
 1911 Constable, N. H., Bute Estate Office, Rothesay  
 1922 Cowan, Douglas L., Grenach Farm, Rothesay  
 1920 Crawford, James, Mill Farm, Millport  
 1905 Crawford, Peter, Torryhann, Kilmorie, Arran

**Admitted**

- 1922 Dickie, John, Cranslagvourity Farm, Rothesay  
 1892 Duncan, James L., 29 Crighton Road, Craigmore, Rothesay — *Pres. Life Member*  
 1922 Duncan, Ninian, Little Kilmory, Rothesay  
 1897 Fisher, James, Grain Merchant, Rothesay  
 1900 Forayth, R. W., Corrie, Arran  
 1920 Gracie, William, Kerryhamont, Rothesay  
 1912 GRAHAM, The Marquis of, Brodick Castle, Brodick  
 1922 Graham, The Marchioness of, Brodick Castle, Brodick  
 1922 Heggie, Robert, Farm Manager, Brodick, Isle of Arran  
 1919 Hogg, Major F. E., Home Farm, Mount Stuart, Bute  
 1920 Hunter, William, Upper Ettrick, Bute  
 1906 Inglis, William, Forester, Twathair, Brodick  
 1905 Johnston, James, Glencorrodale, Lam-lash  
 1912 Laidler, George, Factor, Strabane, Brodick  
 1921 Laing, J. Campbell, Bute Estate Office, Rothesay  
 1902 Lochhead, Thomas, Kildavanan, Rothesay  
 1920 Lyon, George, Drumochloy, Bute  
 1922 M'Alister, Archibald, Meikle Kilmory, Rothesay  
 1889 M'Alister, Robert, Mid Ascog, Rothesay  
 1920 M'Fie, J., Lower Ettrick, Bute  
 1889 Macfie, John, Allt-an-righ, Port Bannatyne, Rothesay  
 1919 Mackay, Robert, Ballochmartin, Millport  
 1917 Mackelvie, Donald, Merchant, Lam-lash, Arran  
 1922 Martin, John, Ardnahoe Farm, Rothesay  
 1907 Martin, John G., Brandon, Brodick  
 1902 Martin, Mrs J. G., Brandon, Brodick  
 1922 Montgomery, James, Auchinteerie, Rothesay  
 1918 Morton, James J., Machrie, Brodick  
 1879 Reid, F. Robertson, Loch Ranza, Isle of Arran  
 1920 Ritchie, A. T., Gartnakailey, Bute  
 1907 Speirs, Alexander C., Clachaig, Kilmorie, Arran  
 1902 Sweet, J. B., Bank of Scotland, Lam-lash  
 1921 Turnbull, John W., Factor, Ardlamont, Kilbride House, Millhouse, Kyles of Bute  
 1887 Wallace, John, 8 Hamilton Terrace, Lam-lash  
 1919 Williamson, George, Ivy Cottage, Brodick, Arran

**LANARK.**

- 1920 Adam, James B. (Messrs Thomas Ogilvie & Sons), 348 West Princes Street, Glasgow, W.  
 1919 Adamson, Walter, Harleyholm, Thacker-ton  
 1915 Adamson, William, Grange Hall, Thacker-ton  
 1915 Affleck, Archibald, Barnhill, Douglas Water, Lanarkshire  
 1915 Aitken, David, Lewinside, Carnwath  
 1919 Aitken, James, Lewinside, Carnwath  
 1918 Aitkenhead, Robert, Kilbucho Place, Biggar



- Admitted**  
 1921 Alexander, Archibald, Fountainwill Road, Townhead, Glasgow  
 1921 Alexander, James, Fountainwill Road, Townhead, Glasgow  
 1875 Alexander, James, 145 North Street, Glasgow  
 1923 Alexander, William, 36 Hillside Place, Springburn, Glasgow  
 1883 Allan, Gavin, *last known address*, 54 Old Dumbarton Road, Glasgow  
 1892 Allan, Henry, 25 Bothwell Street, Glasgow  
 1913 Allison, George H. (W. & T. Avery, Ltd.), 304 St Vincent Street, Glasgow  
 1915 Allison, Alexander, Head Inns Farm, Carnwath  
 1915 Allison, John, Carnwath Mill, Carnwath  
 1923 Allison, J., jun., O.A., 219 St Vincent Street, Glasgow  
 1905 Alston, James T. R., Hyndford, Lanark  
 1919 Anderson, Angus M., Spango, Abington  
 1932 Anderson, Miss Margaret Mabel Farie, 11 Grosvenor Terrace, Glasgow, W.  
 1909 Anderson, Robert, 841 Thistle Street (S.S.), Glasgow  
 1920 Anderson, William, M.R.C.V.S., 680 Keppochhill Road, Glasgow  
 1938 Anger, Alfred Hubert, West of Scotland Agricultural College, 6 Blythwood Square, Glasgow  
 1915 Arnell, Allan, Haininghead, Carluke  
 1920 Baillie, David, Hyndeshaw, Carluke  
 1918 Baillie, John, Calla, Carnwath  
 1907 Baillie, Robert, Morningside Farm, New Mains  
 1905 Baird, William, Gallowhill, Carmunnock  
 1920 Baird, William, "Ramoye," Chapelhall, Airdrie  
 1923 Baird, William, Mossband Farm, Newarthill  
 1913 Ballantyne, Andrew, Shotlin, Glassford, Strathaven  
 1920 Ballantyne, Archibald, Stravenhouse, Carluke  
 1922 Ballantyne, John, Woods Farm, Auchenheth, Lanarkshire  
 1913 Bankier, Alexander, Gartloch Farm, Gartcosh, Glasgow  
 1913 Banks, Thomas (Binney & Son, Ltd.), 48 Oswald Street, Glasgow  
 1923 Barbour, Matthew, 587 Alexandra Parade, Glasgow  
 1921 Barker, G. H. (of James H. Steele, Edinburgh), 94 Queensborough Gardens, Hyndland, Glasgow  
 1907 Barr, Andrew, Dunsyre Mains, Dunsyre, Carstairs Junction  
 1922 Barr, G. L. H., 19 Waterloo Street, Glasgow  
 1918 Barr, Hugh, Muirfoot, Carstairs  
 1903 Barr, James, British Linen Bank, Carluke  
 1912 Barr, Samuel, Henshilwood, Braehead, Carnwath  
 1909 Barr, William, Burnhead, Carluke  
 1913 Barr, William, Greenbank, Carluke  
 1913 Barr, William, Harelaw, Carstairs  
 1921 Barr, William, Hawksland Farm, Lesmahagow  
 1910 Barrie, James, Mossplatt, Carstairs  
 1919 Barrie, Ninian, Kildare, Lanark  
 1915 Barrie, Ninian, Westfield, Carnwath  
 1919 Barrie, Thomas, Bognall, Carnwath  
 1912 Bathgate, Harry R., Woodneuk, Mount Vernon, Glasgow
- Admitted**  
 1915 Baxter, David, Woodlands, Thankerton  
 1921 Beaton, James, Neshanic, Brakenbrae, Bishopbriggs  
 1882 Beckett, C. R. (British Oil & Cake Mills, Ltd.), Rockvilla Oil Mills, Port Dundas, Glasgow  
 1900 Begg, Hugh, M.R.C.V.S., County Buildings, Hamilton  
 1913 Begg, William, Upper Dunlop, Tollcross, Glasgow  
 1908 Berry, Reginald A., 6 Blythwood Square, Glasgow  
 1882 Bertram, A. D., *last known address*, Kersewell, Carnwath  
 1915 Bertram, Joseph, Gladstone Boreland, Biggar  
 1919 Bishop, A. Henderson, Thornton Hall, Thorntonhall Station  
 1920 Black, Alexander Lindsay, Easterhouse, Cobbinshaw  
 1920 Black, Robert, jun., 21 Bannatyne Street, Lanark  
 1913 Blackie, Gavin, Registrar's Office, Bellshill  
 1923 Blackie, William, Gowanlee, Bellshill  
 1923 Blackwood, Thomas M., 4 Lorne Terrace, Maryhill  
 1921 Blain, James (James Blain & Co.), 35 Robertson Street, Glasgow  
 1907 Blue, Allan P., 65 Pitt Street, Glasgow  
 1914 Bone, John Scott (Thos. Hayman & Son, Ltd.), 26A Robertson Street, Glasgow  
 1919 Bosomworth, Edward Gordon, 269 Duke Street, Glasgow  
 1920 Bosomworth, John I., 269 Duke Street, Glasgow  
 1919 Bosomworth, William, 269 Duke Street, Glasgow  
 1919 Bosomworth, William Francis, 269 Duke Street, Glasgow  
 1912 Bowie, Matthew, Easter Balmuldy, Lambhill, Glasgow  
 1900 Boyd, Gavin, jun., Newhouse, Lanark  
 1919 Boyd, Gavin, Wellwood, Cleghorn, Lanark  
 1915 Boyd, W. Dawson, Parkboro, Lanark  
 1919 Brocket, John, Eastsidewood, Carnwath  
 1920 Brodie, Alexander G., 185 Stonelaw Road, Rutherglen, Glasgow  
 1922 Brown, Foster, 91 West George Street, Glasgow  
 1906 Brown, Harold G., of Cormiston, Biggar  
 1919 Brown, James, Merryton Farm, Hamilton  
 1919 Brown, James, Westray, Thankerton  
 1915 Brown, James A., Corniston Towers, Biggar  
 1906 Brown, Joseph, High Merryton, Larkhall  
 1919 Brown, Richard, Newside, Thankerton  
 1919 Brown, Thomas, Lockhart Mill, Lanark  
 1906 Brown, William, Auction Mart Co., Ltd., Biggar  
 1898 Brown, Wm. D., Photographer, Lanark  
 1919 Brownlie, Thomas S., Earnock Muir, Hamilton  
 1919 Bryce, James, West Croftmill, Auchengray, Lanarkshire  
 1913 Bryson, Andrew, 93 Claythorn Street, Glasgow  
 1922 Bryson, Thomas C., Turnlaw Farm, Cambuslang  
 1905 Buchanan, James, 465 Gallowgate, Glasgow  
 1876 Buchanan, Capt. J. R. G., of Scotstone, Eastfield House, Cambuslang

## Admitted

- 1913 Burns, John M., 45 Viewmount Drive, Maryhill, Glasgow  
 1919 Burns, William, Springhill, Shotts  
 1915 Cadsow, Charles, Weston, Dunsyre, Carstairs Junction  
 1922 Cairns, John, 69 Mitchell Street, Glasgow  
 1920 Cameron, Alexander, Bellshill Public Slaughterhouse, Hattouirrig Road, Bellshill  
 1919 Cameron, Mrs E. M., of Dolphinton, Lanarkshire (20 Ainslie Place, Edinburgh)  
 1919 Cameron, Ewen, Forrestfield Inn, by Caldercruix  
 1897 Cameron, John J. (A. & J. Main & Co.), Glydsedale Ironworks, Possilpark, Glasgow  
 1907 Campbell, Major Alexander, 16 Cumberland Street, Glasgow  
 1913 Campbell, Allan, Warrenhill Farm, Thankerton  
 1914 Campbell, Collin, 309 Golfhill Drive, Dennistoun, Glasgow  
 1904 Campbell, James (Campbell Gas Engine Co.), 104 Bath Street, Glasgow  
 1922 Campbell, William, 29 Waterloo Street, Glasgow  
 1905 Carruthers, Andrew, Nethertown, Auchenhath, Hamilton  
 1910 Carruthers, Richard B., 62-78 King Street, Tradeston, Glasgow  
 1922 Chalmers, William, Woodhead, Lesmahagow  
 1880 Chaplin, Captain T. R., *last known address*, Lawhead House, Carnwath  
 1919 Chapman, Richard, Hangingshaw, Carstairs  
 1906 Chapman, William A., Cairngorm, Kennedy Drive, Airdrie  
 1882 Chapman, William W., Commonhead House, Airdrie  
 1922 Chassels, A. M'Nab, Invercraik, Coatbridge  
 1913 Chassels, T., Muirhouse, Motherwell  
 1922 Chassels, William, M.O., Athoran Grange, Motherwell  
 1922 Chivers, J. W. S., 15 Kelvinside Terrace, Glasgow  
 1921 Christie, P. A. (General Motors (Glasgow), Ltd.), 225 Duke Street, Glasgow  
 1922 Clark, Archibald, Secretary, Lanarkshire Farmers' Society, Union Bank, Hamilton  
 1869 Clark, Mathew, *last known address*, 89 Westbourne Gardens, Kelvinside, Glasgow  
 1922 Clark, Robert, High Possil Farm, Lambhill  
 1914 Clark, William, Woodhead Farm, Uddington  
 1919 Clarkson, Alexander, Prett's Mill, Lanark  
 1922 Clarkson, Alexander David, Wandel, Abington  
 1898 Clarkson, James, Ladygill House, Abington  
 1898 Clarkson, Robert, Wandel, Abington  
 1919 Clarkson, William Loudon, Wiston Mill, Lamington  
 1920 Cleland, Andrew (Neilson & Cleland, Ltd.), Main Street, Coatbridge  
 1919 Cleland, James, Viewfield, Hamilton  
 1922 Cleland, James, Shieldhall Farm, Govan  
 1919 Cleland, John, Dykehead Farm, Hamilton  
 1919 Cleland, William, Birdsfield, High Blantyre  
 1922 Clewa, David, 35 Whitehill Street, Dennistoun, Glasgow

## Admitted

- 1919 Cochran, Thomas, 69 Robertson Street, Glasgow  
 1919 Cochran, William M., of Craig, Strathaven  
 1890 COLLSBROOK, Lord, of Crawford, Abington  
 1920 Collins, Charles M., Kelvindale, Maryhill  
 1919 Cooper, Isaac, Newbigging Mill, Carnwath  
 1918 Cooper, James, Muirhead, Carstairs  
 1919 Cooper, Robert, Collielaw, Carluke  
 1910 Cormack, D. G., Fairlaw, Stewarton Drive, Cambuslang  
 1876 Coubrough, William, 144 Maclean Street, Plantation, Glasgow  
 1921 Cowan, Andrew, Woodend, Abington  
 1914 Cowan, Edward Stuart, 5 Oswald Street, Glasgow  
 1920 Cowan, James, 5 Oswald Street, Glasgow  
 1892 Cowie, W. R., 14 Douglas Gardens, Uddington  
 1913 Craig, Andrew, 198 West George Street, Glasgow  
 1888 Craig, John, High Ploughland, Strathaven  
 1915 Craig, John, Westside, Nempfar, Lanark  
 1921 Craig, Thomas, 23 Clifford Street, Ibrox, Glasgow  
 1915 Craig, William, Fallside, Lamington  
 1915 Craig, William, Glendona, Lanark  
 1922 Cranston, Lieut.-Colonel C. J., Edmondston, Corehouse, Lanark  
 1912 Cross, Archibald, 19 Hope Street, Glasgow  
 1906 Cross, P. A. Munro, 19 Hope Street, Glasgow  
 1908 Cross, Sir William Coats, Bart., 19 Hope Street, Glasgow  
 1921 Cullen, Archibald T., Gartverrie Farm, Coatbridge  
 1923 Cullen, C. Macfarlane, 63 Barrington Drive, Glasgow  
 1905 Cumming, James, *last known address*, Grain Merchant, Lanark  
 1897 Cumming, Robert, *last known address*, 20 Bute Gardens, Glasgow, W.  
 1920 Cunningham, William, Leemoor, Carluke  
 1920 Currie, Donald, Bentfoot Farm, Caldercruix  
 1919 Currie, John, Callagreen, Carluke  
 1920 Currie, William, Muirhouse, Cleland  
 1901 Cuthbertson, John, West of Scotland Agricultural College, 6 Blythswood Square, Glasgow  
 1915 Cuthbertson, John M., Bankhead, Lanark  
 1919 Cuthill, George, Headsmuir, Carluke  
 1922 Dalling, Thomas, M.R.C.V.S., Animal Diseases Research Association, 83 Buccleuch Street, Glasgow  
 1921 Davie, Alexander, F.S.I., Valuation Department, Inland Revenue, 1 Kilmore Terrace, Pollokshields, Glasgow  
 1920 Davie, Douglas, Butcher, Newarthill, *and* Motherwell  
 1895 Dennistoun, A. H. O., of Golfhill, Glasgow  
 1914 Dewar, James, 2 Maxwell Place, Pollokshields, Glasgow  
 1890 Dewar, J. C., Thrush Park, Wishaw  
 1905 Dick, John, Carnbroe Malns, Bellshill  
 1884 Dick, John P., c/o M'Clure, Naismith, & Brodie, 77 St Vincent Street, Glasgow  
 1922 Dick, Stephen Y., Thorn Farm, Bellshill  
 1899 Dickie, Robert, of J. & W. Wallace, 493 Gallowgate, Glasgow  
 1905 Dickie, Wm., sen., Victoria Works, East Kilbride

## Admitted

- 1930 Dickinson, G. E. (Vacuum Oil Co., Ltd.),  
45 Hope Street, Glasgow  
1905 Dickson, Andrew, Castlehill, Carmun-  
nock  
1905 Dickson, John B., Auchren, Lesma-  
hagow  
1921 Dickson, R. Y., Agricultural Engineer,  
144 Castle Street, Glasgow  
1907 Dobson, William, Parkhall, Douglas  
1919 Donald, George, Craigend, East Kilbride  
1919 Donald, George, Silvermuir, Lanark  
1912 Donald, James, East Parkhead, Bellehill  
1922 Donald, James H., Hareshaw, Strath-  
aven  
1904 Donald, John, 11 Braemar Street, Lang-  
side, Glasgow  
1919 Donald, William, Brewshott, Carnwath  
1923 Donald, William, 16 Lilybank Gardens,  
Glasgow  
1921 Donaldson, J. A., 91 West George  
Street, Glasgow  
1919 Donaldson, Norman P., 14 St Vincent  
Place, Glasgow (Letter Cottage,  
Killearn)  
1905 Douglas, Charles, D.Sc., C.B., of Auch-  
lochan, Lesmahagow. *Hon. Secretary  
of the Society*  
1910 Douglas, Mrs Charles, Auchlochan,  
Lesmahagow  
1914 Dow, James, Walrus Lodge, Hamilton  
1922 Dowie, William M., 29 Waterloo Street,  
Glasgow  
1920 Duff, Peter Robertson, Ardmore, Udd-  
ingston  
1922 Duncan, Alexander, 127 Greenhead  
Drive, Govan  
1922 Duncan, Edward Grant, The Manse,  
Biggar  
1906 Duncan, George T., *office address* (Tan-  
gyes, Ltd.), 111 Hope Street, Glas-  
gow; Oumledge, Uddingston  
1921 Dunlop, J. M., Parishholm, Douglas  
1918 Dunlop, Matthew, Charleville, Udding-  
ston  
1920 Dunlop, William, Butcher, Main Street,  
Bellshill  
1889 Dunn, Richard, Udston, Hamilton  
1905 Dykes, Thomas, Priestgill, Strathaven  
1907 Dykes, William, Hazlebank, Strathaven  
1930 Eason, Charles A., Bank Agent and  
Factor, Mercantile Bank, Motherwell  
1919 Eason, William, Catherine Terrace,  
Union Street, Motherwell  
1922 Eglinton, William, Bent Farms, Bells-  
hill  
1922 Elder, Andrew J., Alliance Bank of Simla,  
Calcutta, c/o D. R. Murray, Esq., J.P.,  
"Lindean," Dumbreck, Glasgow  
1922 Elder, Mrs C. M'L., Alliance Bank of  
Simla, Calcutta, c/o D. R. Mur-  
ray, Esq., J.P., "Lindean," Dum-  
breck, Glasgow  
1919 Elliot, Mrs C. M., Muirglen, Lanark  
1915 Elliot, Walter E., M.C., D.Sc., B.Sc.,  
M.E., C.M., M.P., Muirglen, Lanark  
1887 Elliot, William, Muirglen, Lanark  
1900 Ferguson, Alex., of Oleiland, *last known  
address*, 21 Sandyford Place, Glasgow  
1887 Ferguson, James, 33 St George's Road,  
Glasgow  
1922 Ferguson, William, Wallacefield, Biggar  
1920 Ferrier, Alexander O., The British  
Oil & Cake Mills, Rockvilla Oil  
Mills, Glasgow  
1920 Fife, William T., Liberal Club and 52  
Glasford Street, Glasgow  
1908 Findlater, George, Jarviswood Mains,  
Lanark  
1919 Findlater, Richard, Jarviswood Mains,  
Lanark

## Admitted

- 1884 Findlay, John, Springhill, Baillieston  
1923 Findlay, John, Jun., Springhill, Baillies-  
ton  
1898 Findlay, M. F., 19 Cadogan Street,  
Glasgow  
1913 Findlay, Peter, Brackenbrae, Bishop-  
briggs  
1910 Findlay, Robert, Easter Cadder, Kirkin-  
tilloch  
1900 Fleming, Alexander, Wolfolyde, Biggar  
1915 Fleming, Andrew, Smithycroft, Ham-  
ilton  
1899 Fleming, Andrew, West Mains, Newbig-  
ging, Carnwath  
1888 Fleming, David, Orchard Cottage,  
Broomhouse, Glasgow  
1920 Fleming, James, Bogton, Torrance,  
Lanark  
1915 Fleming, James, Hawkwood, Strathaven  
1905 Fleming, James, Meadowflat, Thanker-  
ton  
1882 Fleming, James, Muirside, Carmunnock  
1912 Fleming, James, 36 Miller Street,  
Hamilton  
1920 Fleming, James, High Boreland, Les-  
mahagow  
1920 Fleming, James, Viewpark, Low Waters,  
Hamilton  
1870 Fleming, J., Meadowbank Cottage,  
Strathaven  
1923 Fleming, James Pollock, Muirside Farm,  
Carmunnock  
1905 Fleming, Stephen, Raith Farm, Both-  
well  
1905 Fleming, William, Corbiehall, Lanark  
1905 Fleming, William, Flashleton, Ruth-  
erglen  
1882 Fleming, William, Windlaw, Carmun-  
nock  
1914 Fleming, William Gilmour, 31 Robertson  
Street, Glasgow  
1915 Ford, Andrew, Easter Farm, Uddingston  
1908 Forrest, John, Brewshott, Carnwath  
1920 Forrest, John, Whitehill, Carluke  
1906 Forrest, Mat. Harry, of Woodhall,  
Bishopbriggs  
1919 Forrest, William, Wellsields, Sand-  
lands, Lanark  
1915 Forsyth, Alexander, Hillend, Robertson,  
Aberlton  
1907 Forsyth, R. W., Hillend, Robertson,  
Aberlton  
1920 Forsyth, Thomas, Stane Farm, Shotts  
1920 Forsyth, William, Batton Farm, Hart-  
hill, Lanark  
1888 Fowler, John, *last known address*, 2  
Grantly Gardens, Glasgow  
1919 Frame, Hugh, Gladstone, Biggar  
1919 Frame, Robert, Carlinside, Lanark  
1919 Frame, Thomas, Dimesdale, Douglas  
Street, Carluke  
1920 Frame, Thomas, South Dyke, Shotts  
1923 Fraser, John, Factor, Cawder Estates  
Office, Bishopbriggs  
1921 Fraser, J. Gibson, Jun., Springhill  
House, Douglas  
1921 Fraser, Newbie, Springhill House,  
Douglas  
1922 Fraser, Richard, High Street, Carluke  
1912 French, Samuel, Woodview, Lanark  
1914 French, William Edward, Netherton,  
Crawfordjohn, Abington  
1923 Frew, Alexander, J.P., Meadowside,  
Airdrie  
1919 Frood, William, Millmoor, Sandlands,  
Lanark  
1920 Fulton, A. B., 113 Queen St., Glasgow  
1923 Gaiger, G. H., F.R.C.V.S., Glasgow  
Veterinary College, 33 Buccleuch  
Street, Glasgow

## Admitted

- 1905 Galbraith, Adam, Biggarshiels, Biggar  
 1921 Galloway, Edward, Knockalva, 27 South-  
 brae Drive, Jordanhill, Glasgow  
 1893 Galloway, Thomas, Balgray House, Kel-  
 vinside, Glasgow  
 1900 Galloway, William, The Delves, Lanark  
*—Free Life Member*  
 1901 Gardner, John Neilson, 248 Albert  
 Road, Pollokshields, Glasgow  
 1920 Gardner, Robert, Melkie Drumgray,  
 Airdrie  
 1919 Gardner, Thomas, Fortisset, Shotts  
 1905 Garraway, Andrew B., Cloverhill, East  
 Kilbride  
 1922 Gibb, Alexander, Bowridge Farm, Car-  
 luke  
 1922 Gibson, John, The Burn, Kirkfield,  
 Lanark  
 1922 Gibson, Richard, Milton Tile Works,  
 Carluke  
 1905 Giffen, Andrew, Baltic Chambers,  
 8 Cadogan Street, Glasgow  
 1922 Giffen, John H. P., 8 Cadogan Street,  
 Glasgow  
 1920 Gilchrist, Andrew, Brae, Strathaven  
 1891 Gilchrist, John, Orbiston Mains, Bells-  
 hill, Glasgow  
 1915 Gilchrist, John, The Law, Thankerton  
 1919 Gilchrist, S., jun. (General Motors (Glas-  
 gow), Ltd.), 225 Duke Street, Glasgow  
 1920 Gilchrist, William, Oldhill, Carluke  
 1905 Gillies, Alexander, Greenbank, Bothwell  
 1877 Gillies, William, 23 University Gardens,  
 Glasgow  
 1919 Gilmour, Alexander, of Burnbrae,  
 Strathaven  
 1921 Gilmour, Archibald G., Crosshill, East  
 Kilbride  
 1921 Gilmour, Arthur, 11 McFarlane Street,  
 Glasgow  
 1921 Gilmour, John, South Alderston Farm,  
 Bellshill  
 1915 Gilmour, John, Viewpark, Muirend,  
 Cathcart  
 1894 Glen, William, *last known address*, 32  
 Berkeley Terrace, Glasgow  
 1922 Good, James, Greenside Farm, New-  
 house, by Holytown  
 1917 Good, William, Home Farm, Hartwood,  
 Lanark  
 1922 Goodwin, David (Rogans Ltd.), Ex-  
 change Square, Glasgow  
 1919 Goodwin, Frank, 3 Blythwood Square,  
 Glasgow  
 1887 Goodwin, John, *last known address*,  
 Clydevieu, Motherwell  
 1893 Gordon, Henry Erskine, of Alkenhead,  
 Cathcart  
 1921 Goss, Stanley L., Secretary, Yorkshire  
 Insurance Co., Ltd., 82 St Vincent  
 Street, Glasgow  
 1883 Gow, Andrew, 2 Lauderdale Avenue,  
 Newlands, Glasgow  
 1919 Graham, Alex., Potato Grower and  
 Merchant, 8 Canning Street, Bridgeton,  
 Glasgow  
 1909 Graham, George, 8 Canning Street, Bridge-  
 ton, Glasgow  
 1921 Graham, James C. (W. & A. Graham),  
 7A Killermont Street, Glasgow  
 1915 Graham, William, Kilgarrh, Coatbridge  
 1922 Gray, Alexander, Damhill, Kirkfield-  
 bank, Lanark  
 1907 Greenshields, John B., West Town,  
 Leamahagow  
 1883 Gunn, John, 126 Onslow Drive, Dennis-  
 town, Glasgow  
 1920 Guthrie, William, Glencroft, Motherwell  
 1919 Haddow, Richard, Longwell, Laming-  
 ton

## Admitted

- 1905 Haidane, W. A. P., 283 Kenmure Street,  
 Pollokshields, Glasgow  
 1919 Hall, John, Craigarden, Albany Drive,  
 Lanark  
 1922 Hamid, Abdul, The University, Glasgow  
 1906 HAMILTON OF DALZELL, Lord, Dalsell,  
 Motherwell  
 1920 Hamilton, Alexander, Orchard Farm,  
 Bellshill  
 1919 Hamilton, Archibald, Muirlea, Biggar  
 1914 Hamilton, Archibald, 160 Bardowie  
 Street, Possilpark, Glasgow  
 1914 Hamilton, A., jun., Possilpark Paint  
 Works, Glasgow  
 1919 Hamilton, Archibald Jamieson, Low  
 Motherwell Farm, Motherwell  
 1897 Hamilton, D., M.R.C.V.S., *last known*  
*address*, Bourtreeshill, Hamilton  
 1889 Hamilton, Gavin, British Linen Bank,  
 Leamahagow  
 1881 Hamilton, James A., *last known address*,  
 11 Hayburn Street, Partick  
 1906 Hamilton, James Brown, Poniel,  
 Douglas  
 1905 Hamilton, John, Deadwaters, Kirk-  
 muirhill  
 1915 Hamilton, John McLean, Bent, Kirk-  
 muirhill, Lanarkshire  
 1905 Hamilton, Matthew G., of Woolfords,  
 Cobbinshaw  
 1922 Hamilton, Robert, Gowanlea, Syming-  
 ton  
 1919 Hamilton, Robert, Hillend, Biggar  
 1915 Hamilton, Robert, Hill of Kincaidow,  
 Carluke  
 1893 Hamilton, Robert, Low Motherwell,  
 Motherwell  
 1919 Hamilton, Robert, Pool Farm, Auchen-  
 gray, Carnwath  
 1906 Hamilton, Samuel, National Bank, Car-  
 luke  
 1897 Hamilton, T. B., M.R.C.V.S., 50 Princes  
 Square, Strathbungo, Glasgow  
 1913 Hamilton, William, Castlehill Farm,  
 Kincaidow, Carluke  
 1918 Hamilton, William, Cransley, Douglas,  
 Lanarkshire  
 1905 Hamilton, William, Easterseat, Carluke  
 1922 Hamilton, William, Glencairn, Station  
 Road, Carluke  
 1919 Hamilton, William, Low Mains, East  
 Kilbride  
 1905 Hamilton, William, Moat Mains, Les-  
 mahagow  
 1915 Hamilton, William, Westtown, Kiln-  
 cadow, Carluke  
 1903 Harper, P. Rankin, Chilean Nitrate  
 Committee, 131 West Regent Street,  
 Glasgow  
 1919 Harrison, George, Newlands Farm,  
 Barga'ddie  
 1922 Hastie, David, Eddlewood, Hamilton  
 1905 Hastie, John, Eddlewood, Hamilton  
 1905 Hastie, Peter, Stonefield, Blantyre  
 1915 Henderson, James, Cornhill, Biggar  
 1919 Henderson, John, Lee Meadow, Car-  
 luke  
 1922 Henderson, Theodore G., 115 St Vincent  
 Street, Glasgow  
 1920 Henderson, William, Townhill, Hamilton  
 1914 Hendry, George, Dalrymple House,  
 Cleland  
 1911 Hill, A. W., 20 Buchanan Street,  
 Glasgow  
 1912 Hogg, Thomas, 19 Hope Street,  
 Glasgow  
 1921 Hood, Peter L., Farm Manager, Kirk-  
 lands Asylum, Bothwell  
 1901 Hope, Thomas, South Brownhill, Strath-  
 aven

## Admitted

- 1922 Houldsworth, J. Hamilton, of Coltness, Castlebank, Lanark  
 1897 Howie, Robert (P. & R. Fleming & Co.), 1 Westbourne Gardens, Glasgow  
 1904 Howie, Robert, 21 Hope Street, Glasgow  
 1922 Howie, William, Carnwadric Farm, Thornliebank  
 1921 Hunter, Andrew, 146 Buchanan Street, Glasgow  
 1919 Hunter, A. W., General Secretary, National Farmers' Union of Scotland, 113 St Vincent Street, Glasgow  
 1919 Hunter, Hope William, Glenochar, Elvanfoot, Lanarkshire  
 1869 Hunter, William, Craighead, Abington  
 1914 Hutcheson, D., "Hawarden," Albany Drive, Lanark  
 1910 Imrie, William G., c/o Miss Imrie, 1 Lorne Terrace, Maryhill, Glasgow  
 1919 Irving, James, Wellheads, Carstairs  
 1920 Izat, Alexander, 33 Virginia Street, Glasgow  
 1899 Jack, Robert, Implement Agent, Ponclair, Lanark  
 1919 Jack, Thomas Furdie, Easthills, Dunsyre  
 1919 Jack, William, Ponclair, Lanark  
 1908 Jack, William C., Robblesland, Lanark  
 1909 Jackson, James, 84/8 Gallowgate, Glasgow  
 1884 Jackson, James, Wakefield Terrace, Clarkston, Glasgow  
 1913 Jackson, John, Fernhurst Farm, Stepps, Glasgow  
 1919 Jackson, Laurence, Broomlands, Symington  
 1919 Jackson, Robert, Chesterhall, Symington  
 1915 Jackson, William K., Broomlands, Symington  
 1921 Jardine, Robert, Huntlyhill Mains, Lanark  
 1903 Johnston, George, jun., Craig Park, Victoria Place, Airdrie  
 1893 Johnston, George, *last known address*, Mossfield, Springburn, Glasgow  
 1915 Johnston, John, East Nerston Farm, East Kilbride  
 1903 Johnston, Robert, Turnberry, Cardonald, Govan  
 1923 Johnston, Thomas, Omos Road, Cleland  
 1915 Johnstone, Thomas, jun., Darnhall, Lesmahagow  
 1919 Johnstone, William, Carlindean, Carnwath  
 1914 Jones, William Felix, Glencairn, Broompark Drive, Lesmahagow  
 1893 Kennedy, M. H., 23 Kingsborough Gardens, Kelvinside, Glasgow  
 1913 Kent, James, Rosewood, South Mount Vernon, by Glasgow  
 1888 Kerr, James, West Port, Lanark  
 1917 Kerr, Neil T., M.B., O.M., Lanark District Asylum, Hartwood  
 1902 Kerr, Norman M., c/o Kerr, Newton, & Calder, 104 West George Street, Glasgow  
 1921 Kerr, Robert, Secretary, Lanarkshire Agricultural Executive Committee, 21 Scott Street, Hamilton  
 1915 King, James, East Netherton, Wishaw  
 1915 King, John, West Netherton, Wishaw  
 1900 King, Sir John W., Bart. of Carstairs, Carstairs House, Lanark  
 1915 Kirkhope, William G., 16 North Gardner Street, Partickhill, Glasgow  
 1907 Kirkwood, Charles, F.S.I., 61 West Regent Street, Glasgow  
 1915 Kirkwood, John, N.D.A., Scorrieholm, Lesmahagow

## Admitted

- 1919 Kitchin, George Shiach, 116 Nithsdale Road, Pollokshields, Glasgow  
 1913 Knox, O. E., 13 Montgomerie Quadrant, Kelvinside, Glasgow  
 1891 Laidlaw, John, 98 Dundas Street, Glasgow, S.S.  
 1920 Lamb, John, jun., Boreland, Lesmahagow  
 1918 Lamb, John Swan, Crookboat, Sandilands Station, Lanark  
 1882 Lamberton, Andrew, Sunnyside Works, Coatbridge  
 1920 Lambie, Thomas, Boghead, Quarter  
 1884 LAMINGTON, Lord, Lamington House, Lamington  
 1906 Lang, Benjamin, Solicitor, Halkerton, 55 Dumbreck Road, Glasgow  
 1895 Lawrie, James, West Newton, Strathaven  
 1896 Lawrie, John M., Craigmorrie, Bearsden  
 1915 Lawson, Andrew S., Guildhouse, Forth, Lanark  
 1919 Lawson, William, Scabgill, Carnwath  
 1919 Leiper, William, Crofthead, Carnwath  
 1922 Leslie, Charles, Udston Farm, Hamilton  
 1919 Letham, Andrew, Blackwoodyards, Kirkmuirhill  
 1919 Letham, James, Lochanbank, Kirkmuirhill  
 1921 Linton, Robert C., Millowner, Symington  
 1922 Livingston, Richard, Peel Cottage, Uddington  
 1920 Logan, James, Gladance, Chapleton, Hamilton  
 1898 Logan, Robert J., Eastshield, Carnwath  
 1911 Lohoar, J., Lochlyock, Thankerton  
 1919 Lyon, John, Quothquan Mill, Thankerton  
 1919 Lyon, William, Libberton Mains, Carnwath  
 1885 M'Alpine, A. N., Glasgow and West of Scotland Technical College, 6 Blythwood Square, Glasgow—*Botanist to the Society*  
 1908 M'Andrew, Rev. T. W., The Manse, Carmichael, Thankerton  
 1919 M'Arthur, Donald Neil, B.Sc., Chemical Department, West of Scotland Agricultural College, Glasgow  
 1907 M'Arthur, James C. C., Nunnerie, Abington  
 1905 M'Arthur, John, 202 Hunter Street, Glasgow  
 1889 Macaulay, J. F., Cairnraig House, Tollcross, Glasgow  
 1923 M'Bain, Simon, Williesbane, Bellahill  
 1923 M'Call, Professor John R., M.R.C.V.S., 14 Kew Terrace, Glasgow  
 1922 M'Coll, George, 28 Balshagray Avenue, Partick, Glasgow  
 1921 M'Oosh, W. W., Easter Moffat, Plains  
 1899 M'Cowan, Robert, Westdene, Strathaven  
 1913 M'Creath, George, jun., Edgemoor, Elvanfoot  
 1899 M'Culloch, David, East Forth Farm, Forth, by Lanark  
 1923 M'Culloch, John, Insurance Manager, 102 Hope Street, Glasgow  
 1902 M'Outcheon, James, F.C.S., 6 Blythwood Square, Glasgow  
 1906 Macdonald, D., Torr Mor, Biggar  
 1913 M'Donald, William (M'Kinnon & M'Donald), 67 Hope Street, Glasgow  
 1919 Macfarlane, James, of Westhouse, Strathaven  
 1919 MacGillip, Duncan A. (Warden Insurance Co., Ltd.), 65 Renfield Street, Glasgow

## Admitted

- 1910 M'Gregor, James, Garrison Grain Mills, Wishaw  
 1920 M'Gregor, John, 102 St Vincent Street, Glasgow  
 1918 M'Gregor, J. Gilray, M.R.C.V.S., Veterinary Department, County Offices, Hamilton  
 1919 M'Gregor, Robert, Westhorn Farm, Tollcross, Glasgow  
 1915 MacGregor, R. Douglas, of Wiston Lodge, Lamington  
 1919 M'Gregor, Thomas B., Lesser Linn, Lanark  
 1920 MacInnes, John, Haskien, Symington  
 1884 M'Intosh, James, *last known address*, 6 Barrington Drive, Glasgow  
 1914 Mackenzie, D., Afton, Busby  
 1919 M'Kinlay, John, Leechford, Lanark  
 1896 M'Kinlay, Robert, Hillhouse, Sandilands, Lanark  
 1915 M'Lachlan, Duncan, 96 Queensborough Gardens, Hyndland, Glasgow  
 1920 M'Laren, J., Castlemaids, Douglas  
 1922 MacIay, Arthur, 19 Waterloo Street, Glasgow  
 1920 M'Lay, John, 82 George Street, Glasgow  
 1907 M'Lean, Peter, 5 Calderwood Road, Rutherglen  
 1913 MacLellan, George S., 129 Trongate, Glasgow  
 1921 M'Leod, Hector (Galloway & M'Leod, Ltd.), 219 St Vincent Street, Glasgow  
 1916 Macmillan, John A., of Dalquhandy, Coalburn, Lanarkshire  
 1886 M'Min, Thomas M'C., *last known address*, 76 Hill Street, Glasgow  
 1921 M'Nair, Donald, Viewpark Farm, Uddingston  
 1883 M'Netlage, A., 93 Hope Street, Glasgow  
 1908 M'Niven, John, Blarcreeen, Mansewood, Pollokshaws  
 1875 M'Pherson, D., Ardlarach, Mount Vernon, N., Glasgow  
 1923 Macpherson, Donald J. R., B.Sc. (Agric.), British Sulphate of Ammonia Federation, Ltd., 29 St Vincent Place, Glasgow  
 1922 M'Kae, Alexander, 35 Robertson Street, Glasgow  
 1906 M'Sorley, P., 44 Jamaica Street, Glasgow  
 1919 M'Vitae, John B., 27 Langside Place, Langside, Glasgow  
 1918 Main, George R., Clydesdale Iron Works, Possilpark, Glasgow  
 1900 Mair, John, Carrick Lodge, Mount Vernon, Lanarkshire  
 1919 Malcolm, William, M.A., M.B.E., Secretary, Agricultural Food Production Committee for Lanark, and Director of Education, Holmhurst, Airdrie  
 1904 Maltman, W. P., 6 Derby Crescent, Kelvinaside, Glasgow  
 1919 Mann, Alexander, Birkdale, Carlisle  
 1919 Mann, John, Woodlands, Symington  
 1921 Manson, Thomas B., B.Sc., N.D.A. (Hons.), Sub-Commissioner, Board of Agriculture for Scotland, 12 Regent Park Terrace, Strathbungo, Glasgow  
 1899 Marshall, Archibald, Auctioneer, Carlisle  
 1889 Marshall, James, Airlies, Motherwell  
 1906 Marshall, Richard, Whitecraighead, Cleland, Motherwell  
 1920 Martin, David, Estates Office, Glenbuck, by Lanark  
 1906 Martin, James, Burnside, Strathaven

VOL. XXXV.

## Admitted

- 1922 Martin, John, 2 Hillhead Road, Cardonald, Glasgow  
 1906 Martin, John Douglas, 19 Hope Street, Glasgow  
 1919 Martin, W. B., 555 Govan Street, Glasgow, S.S.  
 1919 Mather, Arthur, Westbank, Lanark  
 1919 Maxwell, John, Main Street, Wishaw  
 1923 Mayger, Charles Walter, 53 West Regent Street, Glasgow  
 1920 Meikle, Alexander, The Farme, Glassford, Strathaven  
 1918 Meikle, Allan, Alton, Tollcross, Glasgow  
 1919 Meikle, Hugh, jun., Nether Kypeside, Kirkmuirhill  
 1906 Meikle, James, Netherston Farm, Lanark  
 1919 Meikle, John, Alton, Tollcross, Glasgow  
 1922 Meikle, Peter, M.R.C.V.S., Avonholm, Strathaven  
 1919 Meikle, William, Corramore, Sandilands, Lanark  
 1920 Meiklejohn, John A., 2 Highburgh Terrace, Glasgow, W.  
 1884 Millar, John, *last known address*, 118 Queen Street, Glasgow  
 1920 Millar, John G., Birks Farm, Carlisle  
 1920 Miller, James Gordon, 163 Hope Street, Glasgow  
 1921 Miller, John, sen., North Alderston, Bellshill  
 1922 Miller, John, jun., North Alderston, Bellshill  
 1922 Miller, R. Scott, Clydenenk, Uddingston  
 1914 Mills, J. K., 50 Robertson St., Glasgow  
 1906 Milne, James, Estate Office, Carstairs, Carstairs Junction  
 1894 Mitchell, John, 18 Shaftesbury Street, Glasgow  
 1894 Mitchell, Robert, 971 Sauchiehall Street, Glasgow  
 1905 Mitchell, Thomas, Nethanfoot, Crossford, Carlisle  
 1905 Mitchell, William, Hazelside, Douglas  
 1918 Moffat, Andrew, Craigiehall, Carnwath  
 1912 Moffat, David, 31 St Vincent Place, Glasgow  
 1919 Moffat, William, East Tarbrax, Shotts  
 1919 Moorcroft, James, Netherhill, Crawfordjohn, Abington  
 1923 More, Eben J., J.P., "Redroofs," Dalmaoulter, Airdrie  
 1922 Morris, Frank, 7 Grantly Street, Shawlands, Glasgow  
 1922 Morton, Alexander, Whitehill Farm, Stepps  
 1905 Morton, James, East Dykes, Strathaven  
 1905 Motherwell, Andrew, Hay and Grain Merchant, Gorbals, Glasgow  
 1906 Moyes, John, 142 Waterloo Street, Glasgow  
 1915 Muir, George, East Croft Hill, Carnwath  
 1918 Muir, Robert, East Whitecastle, Biggar  
 1906 Muirhead, John, Glencotho, Lanark  
 1915 Muirhead, Thomas, Hillhead, Thaukerton  
 1915 Muirhead, William W., Fern House, Wellington Terrace  
 1918 Mungall, Robert, Ardenlea Cottage, Braidwood, Carlisle  
 1922 Munro, David ("Farming News"), 82 Mitchell Street, Glasgow  
 1923 Munro, Robert Angus (of Robert A. Munro & Co., Ltd.), 140 West George Street, Glasgow  
 1922 Murdoch, Alan, Culter House, Coultter, Lanarkshire

b

## Admitted

- 1906 Murdoch, Alexander, C.A., 58 Bothwell Street, Glasgow  
 1919 Murdoch, Andrew, Teathes, Lesmahagow  
 1913 Murdoch, James, Carntyne, Shettleston  
 1905 Murdoch, James, Haughhead, Uddingston  
 1875 Murdoch, John, Carntyne, Shettleston  
 1921 Murdoch, John, New Mill, Hartwood  
 1893 Murdoch, William, 3 Eglinton Lane, Glasgow  
 1922 Murray, David R., J.P., "Lindean," Nithsdale Road, Dumbreck, Glasgow  
 1922 Murray, Mrs D. R., "Lindean," Nithsdale Road, Dumbreck, Glasgow  
 1891 Murray, James, Stramoloch, Chapelton, by Hamilton  
 1922 Murray, John (Alexander Cross & Sons, Ltd.), 19 Hope Street, Glasgow  
 1918 Murray, John Drummond, 64 Lymburn Street, Glasgow  
 1908 Murray, J. W., 27 West George Street, Glasgow  
 1874 Murray, Robert G., of Spittal, Biggar  
 1903 Murray, T. B., Heavyside, Blackwood, Biggar  
 1875 Napier, John S., of Lethame, Strathaven  
 1915 Neilson, George, Laigh, Netherfield, Strathaven  
 1919 Neilson, Thomas, Park, East Kilbride  
 1867 Neilson, William, Strathview, Bellshill  
 1889 Newbigging, Thomas, c/o Lindsay, Eastfield, Thankerton  
 1897† Newlands, Lord, Mauldslee Castle, Carluke  
 1915 Nimmo, Thomas, Wilsontown Farm, Forth, Lanark  
 1921 Noble, James, 40 M'Culloch Street, Pollokshields  
 1919 O'Brien, D. G. (West of Scotland Agricultural College), 6 Blythswood Square, Glasgow  
 1921 Orr, George, Stane Farm, Shotts  
 1923 Orr, Peter, West Badallan Farm, Fauldhouse  
 1900 Pate, James, West Browncastle, Strathaven  
 1905 Pate, Thomas, Muirslaid, Lesmahagow  
 1913 Pate, Thomas J., Corsebank, Lesmahagow  
 1918 Paterson, Alex. P., of Carmacoup, Douglas  
 1906 Paterson, George Rankin, Drumalbin, Thankerton  
 1914 Paterson, James, 144 Cathedral Street, Glasgow  
 1919 Paterson, John, Eastmains, Carnwath  
 1908 Paterson, Robert, Greenshields, Carnwath  
 1915 Paterson, Robert, Fernbank, Biggar  
 1919 Paterson, Robert Cadzow, Greenshields, Carnwath  
 1919 Paterson, Thomas H., Wardlaw, Biggar  
 1915 Paterson, Principal William G. R., West of Scotland Agricultural College, 6 Blythswood Square, Glasgow (Buckrigg, Dumfries)  
 1896 Paterson, William, Glentaggart, Douglas  
 1920 Paterson, William, Hayhill, Gartcosh, Lanarkshire  
 1919 Paton, David French, Glengeith, Elvanfoot  
 1885 Paton, James, Croftdene, Crawford, Abington  
 1915 Paul, Alexander, 93 Almada Street, Hamilton  
 1919 Paul, Andrew, jun., 14 Caithness Street, Glasgow

## Admitted

- 1920 Paxton, A. S., Poultry Appliance Manufacturer, Airdrie  
 1914 Peat, James, jun., The Brae, Lesmahagow  
 1920 Peggie, William Wallace, M.R.C.V.S., Nithsdale, Biggar  
 1922 Pettigrew, William, Auchengree Farm, Steps  
 1900 Philip, W. W., Lea and Carnwath Estates Office, Cartland  
 1921 Pitt, Borland, 6 Blythswood Square, Glasgow  
 1922 Plenderleith, James J., Burnhouse, Lamington  
 1919 Porteous, James, Commercial Buildings, Forth  
 1907 Prentice, Archibald, Belstone, Carluke  
 1919 Prentice, David, West Redmyre, Shotts  
 1919 Prentice, George, Lindsaylands, Biggar  
 1914 Prentice, Thomas, Loancroft, Uddingston  
 1899 Prentice, Thomas, Saddler, Carluke  
 1921 Primrose, Rev. Robert, Springfield Manse, Bishopbriggs  
 1921 Rae, George (Lawes Chemical Manure Co., Ltd.), 118 Queen Street, Glasgow  
 1918 Ramsay, Thomas, Cadzow Villa, Carluke  
 1921 Ramsay, Thomas M., 2 Main Street, Shotts  
 1898 Rankin, William B., of Cleddans, Airdrie  
 1919 Rannie, John Edgar, 818 Onslow Drive, Dennistoun, Glasgow  
 1919 Reid, Alexander, Muldron, Carfin Road, Motherwell  
 1919 Reid, Charles, The Studio, Wishaw  
 1913 Reid, Sir Hugh, C.B.E., LL.D., Belmont, Springburn, Glasgow  
 1919 Reid, James Allan, Solicitor, 8 East High Street, Airdrie  
 1905 Reid, Dr John, Greenhill Cottage, Forth, Lanark  
 1882 Reid, Peter, Haining, 38 Sherbrooke Avenue, Glasgow—Free Life Member  
 1919 Reid, William, Hallerag House, Airdrie  
 1905 Renwick, Andrew, Buchley Farm, Bishopbriggs  
 1882 Renwick, Robert, Buchley, Bishopbriggs  
 1919 Retson, John, Rowantree, Kirkfieldbank, Lanark  
 1904 Richard, J. M. M., Wiston Lodge, Lamington  
 1922 Riddell, John, 10 Anderson Street, Glasgow  
 1922 Ritchie, James, Brownsbank, Biggar  
 1905 Robb, Andrew, sen., F.R.C.V.S., 16 Ward Street, Glasgow  
 1919 Robb, David, Haywoodhead, Haywood, Lanark  
 1919 Robb, George, Flemington, Hallside, Lanarkshire  
 1919 Robb, John, Woodend, Carnwath  
 1905 Robb, William, F.R.C.V.S., 16 Ward Street, Glasgow  
 1919 Robertson, John, Greenfield, Cobbinshaw  
 1923 Robertson, J. M., 45 West Nile Street, Glasgow  
 1919 Robertson, Peter, Greenfield, Cobbinshaw  
 1900 Robley, W. P., last known address, 100 High John Street, Glasgow  
 1922 Ross, Alexander S., 15 Albion Street, Downhill, Glasgow, W.  
 1898 Russel, William, Longleas, Biggar  
 1882 Russell, James, Castlehill, Hamilton  
 1912 Russell, James, Townhead, Holytown

## Admitted

- 1921 Russell, John, Eastend, Carstairs  
 1907 Russell, Robert, Tinto View, Causeway-end, Biggar  
 1889 Russell, Thomas, 119 Bowman Street, Crosshill, Glasgow  
 1914 Russell, William, Cleghorn Mills, Lanark  
 1915 Sanderson, William, Hole, Carluke  
 1914 Scott, Alexander, Bogside, Carluke  
 1914 Scott, David, Hattonrigg Farm, Bellshill  
 1919 Scott, Gavin A., Shodshill, Braeshead, Carnwath  
 1922 Scott, James R., c/o Pure Cane Molasses Co., Ltd., 45 Hope Street, Glasgow  
 1922 Scott, John, Bogside, Lesmahagow  
 1918 Scott, John, Cockridge Farm, Carstairs  
 1885 Scott, John, jun., Auchinloch, Lenzie  
 1915 Scott, John, Shodshill, Carnwath  
 1922 Scott, Robert, Swinstie Cottage, Cleland  
 1915 Scott, Robert, Thornholme, Carluke  
 1919 Scott, Robert Thom, Netherton, Carstairs  
 1919 Scott, Thomas, Hallhill, Crossford, Carluke  
 1915 Scott, Thomas, Netherhall, Sandilands, Lanark  
 1919 Scott, Thomas, Netherton, Carstairs  
 1914 Scott, William, Boghall, Biggar  
 1918 Scott, William, Cockridge Farm, Carstairs  
 1918 Scott, William, Cowford Farm, Carstairs  
 1905 Scott, William, Greenhills, East Kilbride  
 1875 Scott, William, last known address, Priestfield, Blantyre  
 1922 Semple, Alexander, South Netherburn, Ashgill, Lanarkshire  
 1920 Semple, John, Pyatknowe, Biggar  
 1919 Semple, John, Threestanes, Strathaven, Lanarkshire  
 1919 Seton, Sir Bruce, 36 Glasgow Street, Hillhead, Glasgow  
 1910 Shand, James B., 20 Renfrew Street, Glasgow  
 1906 Shanks, Gavin, Silvertonhill House, Hamilton  
 1914 Shanks, John B., "Lisowen," Dumbreck, Glasgow  
 1915 Shanks, Robert, West Glespin, Douglas  
 1915 Shaw, William, Secretary, Upper Ward of Lanarkshire Agricultural Association, Royal Bank, Lanark  
 1928 Shearer, Archibald, Newhouse Farm, Kirkfield, Lanark  
 1915 Sim, Ernest James, Glenreadell Estate Company, 217 West George Street, Glasgow  
 1897 Simpson, Alexander M., Whitecross Farm, East Kilbride  
 1905 Simpson, Kerr A., B.L., of The Hill, Lesmahagow  
 1915 Sinclair, John, Lamington Mains, Lamington  
 1914 Sinclair, John, Legholmsheils, Biggar  
 1897 Sinclair, Robert, Seton Cottage, Bonkle, Newmains  
 1877 Skead, George, Royal Bank, Wishaw  
 1907 Sloan, William A. (Sloan, Munro, & Co.), 19 Queen Street, Glasgow  
 1922 Smith, D. Pollock, 44 Circus Drive, Dennistoun, Glasgow  
 1915 Smith, James, Mountainblow, Haywood, Lanark  
 1920 Smith, John, Birkhill, Lesmahagow  
 1921 Smith, Robert, Drahan, Marshall, Kirkmuirhill  
 1921 Smith, William, Blackbog, Quarter, Hamilton

## Admitted

- 1919 Somerville, Alexander Wilson, Cleughforth  
 1919 Somerville, George Purdie, Muirhouse, Carnwath  
 1919 Somerville, James, Covanhill, Carstairs  
 1914 Somerville, James, Lilybank, Thorntonhall, Glasgow  
 1911 Somerville, James P., Muirhouse, Carnwath  
 1898 Somerville, John L., 17 M'Aslin Street, Glasgow  
 1897 Somerville, Thomas Purdie, Sandilands, Lanark  
 1921 Soutar, Stanley C., 37 Berkeley Terrace, Glasgow, W.  
 1912 Speir, John, Newton Farm, Newton, Glasgow  
 1923 Spairs, Archibald, 1 Oakley Terrace, Dennistoun, Glasgow  
 1888 Stalker, Donald, Mossend Farm, Mossend, Glasgow  
 1900 Stark, Thomas, Bearyards, Bishopbriggs  
 1919 Steel, John, Waterhead, Lesmahagow  
 1891 Steel, Matthew Taylor, 2 St James Place, Glasgow, W.  
 1921 Steel, William, Righhead Farm, Bellshill  
 1914 Steele, John, 10 Garrioch Crescent, Maryhill, Glasgow  
 1919 Steele, Mungo, Huntlygate, Lanark  
 1892 Stephen, D. K., 100 Duke Street, Glasgow  
 1889 Steven, Hugh, last known address, Milton Iron Works, Glasgow  
 1904 Stewart, David, Blantyre Park, High Blantyre  
 1914 Stewart, Hugh, Southfield, Kirkmuirhill  
 1919 Stewart, John Bowie, Gartcraig Farm, Shettleston  
 1921 Stewart, John C., yr. of Murdostoun Castle, Newmains  
 1905 Stewart, John P., Gartcraig, Shettleston  
 1881 Stewart, Sir R. K., of Murdostoun, Newmains  
 1920 Stewart, Robert, Tophall Dairy, Hamilton  
 1915 Stewart, Thomas, Newteadings, Lanark  
 1912 Stirling, Alexander, 42 Bain Street, Glasgow  
 1923 Stirling, James, Heatheryknowe Farm, Bargeddie  
 1919 Stobo, Alexander, Clarkston, Kirkfieldbank, Lanark  
 1922 Stobo, Alexander H., South Garngour, Lesmahagow  
 1922 Strang, William, The Peel, Busby  
 1923 Strang, William Fleming, 24 George Square, Glasgow  
 1915 Struthers, Allan, Thornyhill, Lanark  
 1915 Struthers, Gavin, Southhalls, Strathaven  
 1919 Struthers, Gavin C., Bagmoors, Thackerston  
 1915 Struthers, James, North Cumberhead, Coalburn  
 1906 Struthers, James H., Anston, Dunsyre, Carstairs Junction  
 1919 Struthers, William, Bagmoors, Thackerston  
 1923 Sutherland, William, Causeyhill, Fauldhouse  
 1919 Sweet, Wallace G., 142 West Nile Street, Glasgow  
 1923 Symington, James, 11 Winton Drive, Kelvinside, Glasgow  
 1893 Symington, Thomas, 63 Hope Street, Glasgow  
 1914 Taylor, David, Prospect Hill Road, Mount Florida, Glasgow



## Admitted

- 1920 Taylor, John L., M.R.C.V.S., 58 Sunny-side Road, Coatbridge  
 1906 Telford, Maxwell, Crown Engineering Co., 6/8 Hospital Street, Glasgow  
 1919 Templeton, Alexander Brown (The Sussex Hatcheries), 185-187 Pollokshaws Road, Glasgow  
 1919 Tennant, James, Poulfeigh Place, Douglas Water, Lanark  
 1910 Tennant, Robert, Dairyman, Brandon Bridge, Hamilton  
 1911 Tennant, Thomas, Dyke Farm, Sandilands, Lanark  
 1919 Thomson, Adam, Laegshaw, Carlisle  
 1921 Thomson, Charles B., 410 Parliamentary Road, Glasgow  
 1921 Thomson, Donald, 410 Parliamentary Road, Glasgow  
 1910 Thomson, E. J., 6 Windsor Terrace West, Kelvinside, Glasgow  
 1922 Thomson, Hugh S., 29 Waterloo Street, Glasgow  
 1878 Thomson, William, 339 Sauchiehall Street, Glasgow  
 1915 Thorburn, James, Maidencots, Abington  
 1920 Tipping, Stanley, 106 Buchanan Street, Glasgow  
 1921 Torrance, Abraham, Crookedstone, Quarter  
 1905 Torrance, Alexander, Crookedstone, Quarter  
 1921 Torrance, John, Knowstop, Quarter  
 1910 Trotter, A. M., M.R.C.V.S., Moore Street Abattoir, Glasgow  
 1896 Turnbull, William, Daldowie, Broomhouse, Glasgow  
 1914 Turnbull, William W. (The Peat Moss Litter Supply Co.), 19 Waterloo Street, Glasgow  
 1882 Vere, J. C. Hope, of Blackwood, Lesmahagow  
 1905 Waddell, Alexander, 37 Wesleyan Street, Glasgow  
 1914 Walker, Andrew, Craighead Mill, Lesmahagow  
 1922 Walker, Andrew, 47 Glassford Street, Glasgow  
 1897 Walker, William Hamilton, Cardarroch House, Airdrie  
 1907 Wallace, Duncan M., Paton Street, Glasgow  
 1888 Wallace, John, *last known address*, 273 Argyle Street, Glasgow  
 1898 Wallace, Robert, Paton Street, Glasgow  
 1915 Wallace, Robert, Linnhead, Sandilands, Lanark  
 1897 Wallace, William, 2 Lancaster Terrace, Great Western Road, Glasgow  
 1907 Wallace, William B., Paton Street, Glasgow  
 1910 Wands, William, 4 Portland Park, Hamilton  
 1918 Warnock, James H., Garrion Farm, Garrion, Wishaw  
 1906 Warnock, Robert, Netherholm Farm, Strathaven  
 1918 Watson, Archibald, jun., 75 West Nile Street, Glasgow  
 1914 Watson, John, 24 St Vincent Place, Glasgow  
 1922 Watson, John, Newton Farm, Strathaven  
 1923 Watson, Thomas, Priestfield Farm, High Blantyre  
 1915 Watson, Thomas B., Newton of Wiston, Lamington  
 1922 Watson, Walter Robert, F.I.S.A., 95 Bath Street, Glasgow  
 1899 Watson, Wm., M.D., 8 Somerset Place, Glasgow

## Admitted

- 1900 Watt, Thomas, Drumgray, Airdrie  
 1906 Weir, Charles, Implement Works, Strathaven  
 1920 Weir, James, Boghouse, Crawfordjohn, Abington  
 1877 Weir, James, Sandilands, Lanark  
 1912 Weir, John, Shottsburn, Salesburgh  
 1915 Weir, John, Townhead, Loch Road, Lanark  
 1914 Weir, Robert, Ashfield Farm, Lambhill, Lanarkshire  
 1922 Weir, Robert W., Implement Maker, Strathaven  
 1915 Weir, William, Farm Manager, Westmains, Carnwath  
 1915 Weir, William, Hill of Orchard, Carlisle  
 1884 Weir, William C., c/o Weir & Robertson, 7 Royal Bank Place, Glasgow  
 1918 Whigham, Robert B., Aftonlea, Shettleston  
 1914 White, Matthew, jun., Scotstoun Flour Mills, 45 Hope Street, Glasgow  
 1919 Whiteford, William S., Colston, Bishopbriggs  
 1923 Whitehouse A. W., M.R.C.V.S., M.A., Director of Studies, Glasgow Veterinary College, 83 Buccleuch Street, Glasgow  
 1919 Whyte, James, of Tweedie Hall, Stonehouse  
 1920 Whyte, Robert, Newhouse Farm, Hallside, Newton, Lanark  
 1914 Williamson, John, Clark Terrace, Cochran Street, Bellshill  
 1921 Williamson, John, Westfield Farm, Holytown  
 1905 Williamson, William, Belziehill, Bellshill  
 1919 Wilson, Allan, East Glespin, Douglas  
 1910 Wilson, Andrew, Ladyacre Road, Lanark  
 1914 Wilson, Francis, Lambhill, Strathaven  
 1922 Wilson, Gavin, East Glespin, Douglas  
 1888 Wilson, James, Westburn, Cambuslang  
 1920 Wilson, James, Burnhouse, Sandilands, Lanark  
 1919 Wilson, John, Yett, Libberton, Carnwath  
 1914 Wilson, Peter, M.R.C.V.S., Lanark  
 1919 Wilson, Robert, East Glespin, Douglas  
 1906 Wilson, Thomas M., Nether Abington, Abington  
 1920 Wilson, William, East Redmyre, Shotts  
 1915 Wilson, William, Townhead, Libberton, Carnwath  
 1908 Wilson, William, Water Meetings, Abington  
 1907 Wingate, David, Castlehill Farm, Wishaw  
 1889 Wood, Alexander, Woodlands, Partick  
 1919 Wood, Archibald, Harthill Mains, Harthill  
 1914 Wordie, Major William, Montgomerie Drive, Kelvinside, Glasgow  
 1923 Wotherspoon, James, Marwill, Burnside, Rutherglen  
 1918 Wright, William, Craigmill, Strathaven  
 1919 Wyllie, James, 2 Wilton Gardens, Kelvinside North, Glasgow  
 1915 Young, Andrew, Birkhill, Lesmahagow  
 1897 Young, James, *last known address*, Bulmook House, Springburn, Glasgow  
 1905 Young, James, Greenfield, Strathaven  
 1914 Young, James, Ravenswood, Dunlop Street, Strathaven  
 1914 Young, James Johnston, Lochburnie Farm, Maryhill, Lanarkshire  
 1919 Young, John, Blantyre Farm, Uddingston  
 1914 Young, John Duncan, 58 St Vincent Street, Glasgow

## Admitted

- 1918 Young, Robert John, Lochburnie, Maryhill  
 1911 Young, William, Avondale, Lanark  
 1919 Young, William, Rodgerhill, Kirkmuirhill  
 1912 Young, William (Bryson, Young & Co.), 60 St Enoch Square, Glasgow

## RENFREW.

- 1918 Adam, James, Abbotsinch, Paisley  
 1906 Adam, John, East Walkinshaw, Renfrew  
 1918 Adam, John, jun., East Walkinshaw, Renfrew  
 1918 Adam, Robert, East Walkinshaw, Renfrew  
 1920 Addie, Frank R., Chaseley, Eldon Street, Greenock  
 1882 Aikman, Thomson, c/o H. B. McKie, Freeland, Bishopton  
 1905 Alexander, William, Dripps Mill Farm, Busby  
 1921 Allan, J. Downie, Beaumaris, Bridge of Weir  
 1919 Allison, John, Land Steward, Bankfoot, Inverkip  
 1913 Andrew, James, V.S., 26 St James Street, Paisley  
 1912 Andrews, John, Cardonald Grain Mills, Cardonald  
 1912 Barclay, George, Thornhill, Johnstone  
 1914 Barrowman, Richard, Rankine Street, Johnstone  
 1922 Beardsley, John Birch, 51 Glencairn Drive, Pollokshields  
 1919 Beaton, Peter, Contractor, 15 Crawford Street, Greenock  
 1913 Biggart, John William, Rosardene, Kilmalcolm  
 1921 Black, John, Auchenofoyle, Kilmalcolm  
 1897 Blackwood, Walter, Van Ryn, Kilmailing Road, Cathcart  
 1913 Blair, Archibald, 61 Newton Street, Greenock  
 1910 Blanche, David, Heathfield, Greenock  
 1905 Bowie, Walter, Marymaur, Paisley  
 1922 Bowie, Walter, Dykebar Hill, Paisley  
 1905 Brown, William, Craigton, Bishopton  
 1919 Bryson, Alexander W., Land Steward, Arthurlie Street, Barrhead, Renfrew  
 1906 Buchanan, George, Hunterhill Farm, Paisley  
 1923 Buchanan, James, North Glen, Langbank  
 1913 Burns, James, Drygate, Kilbarchan  
 1918 Caldwell, James, Braes, Kilbarchan  
 1913 Caldwell, William, Ward, Kilbarchan  
 1913 Chalmers, David W., 29 Newton Street, Greenock  
 1913 Chapman, Robert, North Arkleston, Paisley  
 1923 Chassels, James R., Byram House, 116 Maxwell Drive, Pollokshields  
 1877 Clark, Andrew, Dunedin, Kilmalcolm  
 1906 Clark, James, Netherlea Farm, Ormonde Mount, Cathcart  
 1913 Clark, John, Dunrod, Inverkip  
 1884 Clark, William, Netherlea Farm, Ormonde Mount, Cathcart  
 1913 Clerk, Henry J., Auchenalrig, Kilmalcolm  
 1910 Clement, Sir Thomas, Barcaple, Newton Mearns, Renfrewshire  
 1912 Coats, Daniel, 5 Garthland Place, Paisley

## Admitted

- 1918 Coats, P. H., Corsebar, Paisley  
 1897 Collins, Major Hugh Brown, of Auchinbottle, Kilmalcolm  
 1919 Connell, Allan M., Johnstone Castle, Johnstone  
 1913 Cook, John W., 48 South Street, Greenock  
 1923 Craig, Allan P., Finniebrae Farm, Neilston  
 1913 Craig, James, Hollows Farm, Paisley  
 1913 Craig, John, Mill o' Cart, Linwood  
 1913 Craig, Peter, Beechwood, Elderslie  
 1913 Craig, Thomas, Morrislea, Greenock Road, Paisley  
 1912 Craw, James Snodgrass, Sancel, Paisley  
 1912 Crawford, James, Botherwickfield Farm Bridge of Weir  
 1913 Crawford, Robert, West Morningside Langbank  
 1881 Cross, David, Ingliston, Bishopton  
 1897 Cross, Thomas, Langbank, Renfrewshire  
 1914 Cumming, William, 22 Well Street, Paisley  
 1913 Cunningham, James, St James Street, Paisley  
 1913 Darruch, Colonel Duncan, Gourrock House, Gourrock  
 1894 Dawson, Robert, Dovehill, Pollokshaws  
 1923 Eadie, Mrs D. S. K., The Hall of Caldwell, Caldwell  
 1923 Eadie, George, The Hall of Caldwell, Caldwell  
 1913 Fairweather, Wallace, Faside and Mearns Castle, Newton Mearns  
 1906 Farquhar, Mrs Hilda Harrington, St Margaret's, Bridge of Weir  
 1914 Fergus, A. M. Houston, Aincroft, Bridge of Weir  
 1900 Fleming, Andrew, Threepland, Eaglesham  
 1922 Fleming, William, jun., Park, Inchinnan  
 1912 Forrest, William, Chain Road, Paisley  
 1920 Forrester, J. R., 87-88 Old Sneddon Street, Paisley  
 1872 Forsyth, James, Ironmonger, Kilmalcolm  
 1897 Fulton, Thomas, Shiels, Renfrew  
 1912 Galloway, George, Estate Factor, Bishopton  
 1912 Gardner, James, South Hillington, Cardonald  
 1912 Gardner, John, Woodend, Houston  
 1905 Gemmell, Alexander, Humble, Newton Mearns  
 1923 Gemmell, John, Melbourne House, 230 Nithsdale Road, Pollokshields  
 1912 George, William, Rossland, Bishopton  
 1912 Gibb, John, Gladstone, Bishopton  
 1922 Gilmour, Hugh, Windhill, Eaglesham  
 1912 Gilmour, Matthew, Town of Inchinnan, Inchinnan  
 1913 Glen-Coats, Major A. Harold, Ferguslie Park, Paisley  
 1917 Hamilton, Thomas W., F.S.I., Estate Architect and Surveyor, Manson House, Greenock  
 1900 Harvie, Alexander, Shieldhill, Newton Mearns  
 1905 Harvie, Robert, Darnley Mill, Nithhill  
 1900 Hatrick, J. M., Glen Park, Johnstone  
 —Free Life Member  
 1912 Henderson, William, Old Crookston, Nithhill  
 1919 Hill, Matthew Hamilton, Branzholm, Kilmalcolm  
 1914 Hill, William A., Greenock Grain Mills, Greenock

## Admitted

- 1913 Hialop, John, Bannerbank, Newton Mearns  
 1913 Holmes, Robert, Donaldfield, Bridge of Weir  
 1905 Holmes, John A., Formakin, Bishopton  
 1905 Holmes, William, jun., Gladstone, Kilbarchan  
 1897 Houston, Alexander C., Marylea, Cal-side, Paisley  
 1906 Houston, Gavin, Greenhill, Elderslie, by Johnstone  
 1913 Houston, John, Langaide Farm, Port-Glasgow  
 1894 Houston, William F., V.S., Paisley  
 1921 Howie, Hugh, Finnockbog Farm, Inverkip  
 1913 Howie, Robert, Flatterton, Greenock  
 1921 Howie, Thomas, Finnockbog Farm, Inverkip  
 1912 Howie, William, 5 Robertson Street, Greenock  
 1894 Hunter, Andrew, St Brydes, Howwood  
 1920 Kerr, Robert, Erskine Home Farm, Bishopton  
 1912 Kerr, William, Neilstonside, Neilston  
 1913 Kinloch, John, Branchal, Bridge of Weir  
 1906 Kyle, Matthew, Barnhill, Inchinnan  
 1912 Kyle, Robert, South Candren, Paisley  
 1906 Laidler, James, Eastview, Glasgow Road, Paisley  
 1913 Laird, John, Ladymuir, Kilbarchan  
 1906 Lambie, George W., Fiumuir Farm, Newton Mearns  
 1895 Lambie, James, Bonnyton Moor, Eaglesham  
 1905 Lambie, John, Langton, Newton Mearns  
 1919 Lambie, John, jun., Dodsie, Newton Mearns  
 1897 Lang, Alexander A., Garneyland, Inchinnan  
 1913 Lang, John, Chrisswell, Greenock  
 1912 Lang, William, 4 Glen Lane, Paisley  
 1912 Lawrie, Robert, 77 New Sneddon Street, Paisley  
 1908 Linton, Walter, Craig Rannoch, Camperdown Road, Scotstoun  
 1913 Livingstone, Andrew, 20 Gauze Street, Paisley  
 1912 Lobnitz, Sir Frederick, Ross Hall, Crookston  
 1913 Love, James, B.A., F.E.I.S., Kibble Institution, Paisley  
 1913 Lyle, James, Ditch Farm, Bishopton  
 1912 Lyle, Robert, West Porton Farm, Bishopton  
 1912 M'Aulay, Peter, Bow, Greenock  
 1913 M'Aulay, Robert, Craigs Farm, Greenock  
 1905 M'Coll, Neil, Craigends Home Farm, Johnstone  
 1875 Macdowall, H., of Garthland, Lochwinnoch  
 1905 M'Gee, Walter, Bridge Street Grain Mills, Paisley  
 1922 M'Gregor, Thomas, Organiser S.F.S.U., Victoria Road, Nitshill  
 1912 Macintosh, Alexander, Greenhill, Houston  
 1895 M'Intosh, John S., 2 Camphill Place, Paisley  
 1913 M'Intyre, Alexander, Leitchland Farm, Greenock  
 1913 M'Intyre, William, Langhill Farm, Inverkip  
 1897 M'Kay, John, Brownfield Farm, Inchinnan  
 1914 M'Kean, James Anderson Dunlop, Roxelle, Paisley  
 1884 M'Kie, H. B., Freeland, Bishopton

## Admitted

- 1920 M'Kie, Henry Erskine, Freeland, Bishopton  
 1910 M'Kie, William Taylor, Freeland, Bishopton  
 1906 M'Lachlan, John, Glenburn, Gourcock  
 1912 MacLennan, H. A., Ardgriffe, Johnstone  
 1896 M'Meeke, James, Castlehill, 202 Nithsdale Road, Pollokshields  
 1905 M'Millan, William, Orchard, Giffnock  
 1913 M'Nair, John, Melkieriggs, Paisley  
 1905 M'Neillage, Robert, Arden, Thornliebank  
 1895 Marshall, Robert C., Bruntshields, Kilbarchan  
 1914 Marshall, William, 12 St James Avenue, Paisley  
 1913 Mathie, James, Cove Farm, Gourcock  
 1913 Mathie, James, Merksworth, Paisley  
 1922 Maxwell, Miss Ann Stirling, Pollok House, Pollokshaws  
 1910 Maxwell, Miss Mary Alexandra, Dargavel, Bishopton  
 1889† MAXWELL, Sir John Maxwell Stirling, of Pollok, Bart., Pollokshaws  
 1912 Meiklejohn, A. M., Rosehill, Nitshill  
 1905 Michie, David K., Elderslie Estates Office, Renfrew  
 1905 Millar, James, Flanders, Newton Mearns  
 1919 Miller, William, Townhead Farm, Kilmaccolm  
 1917 Muirhead, Roland E., Meikle Cloak, Lochwinnoch  
 1904 Munro, John M., Dunbrae, Brunswick Avenue, Giffnock  
 1905 Munro, Robert, Polnoon, Eaglesham  
 1890 Murray, J. Campbell, Hagg's Castle, Pollokshields, Glasgow  
 1912 Murray, R., jun., Pacemuir Mill, Kilmaccolm  
 1920 Orr, William, Ballgreen, Lochwinnoch, Renfrew  
 1919 Paterson, John, 32 Eldon Street, Greenock  
 1919 Paterson, Robert, Stamperland House, Cathcart, Glasgow  
 1921 Paterson, William, J.P., St James Terrace, Kilmaccolm  
 1918 Paton, George, Haining Farm, Renfrew  
 1920 Pirie, George, Superintendent, Paisley District Asylum, Paisley  
 1882 Pollock, John, last known address, Pollokshaws  
 1873 Pollock, John, Byres Farm, Pollokshaws  
 1913 Pottie, Alex., jun., V.S., Love Street, Paisley  
 1913 Pottie, J. Donaldson, M.R.C.V.S., 25 Tobago Street, Greenock  
 1912 Ramsay, William R., Seedhill Mills, Paisley  
 1912 Rankin, James, Netherton, Renfrew  
 1923 Redpath, John B., 28 Ferguslie, Paisley  
 1922 Reid, Alexander, Old Bishopton, Bishopton  
 1882 Reid, Robert, Writer, Houstoun Square, Johnstone  
 1888 Reid, William, Wester Killochside, Busby  
 1905 Renfrew, Andrew, Barrance, Newton Mearns  
 1900 Renfrew, William, Ferguslie Farm, Paisley  
 1912 Rennie, John, 26 Neilston Road, Paisley  
 1912 Renshaw, Sir Stephen Bine, Bart., of Barochan, Glenpatrick Works, Elderslie, Johnstone  
 1912 Riddell, Robert, Blackhall, Paisley

## Admitted

- 1921 Ritchie, Charles James, 37 Edward Gardens, Cardonald, Glasgow  
 1913 Ritchie, James A., Nether Johnstone Farm, Johnstone  
 1913 Ritchie, William, Broomward, Elderslie  
 1923 Ross, David, Glenville Avenue, Giffnock  
 1912 Rowand, John, Candren, Paisley  
 1889 Russell, Thomas, *last known address*, Kelly Farm, Wemyss Bay  
 1912 Samson, John, Druncross Farm, Bishopston  
 1912 Scott, Alexander, North Mains, Johnstone  
 1913 Scott, James, Green Farm, Kilnmalcolm  
 1894 Scott, John, 27 Glenville Avenue, Giffnock  
 1913 Scott, John, Hill Farm, Inverkip  
 1913 Service, John, Tontine Hotel, Greenock  
 1879 SHAW-STEWART, Sir Hugh, of Greenock and Blackhall, Bart., C.B., Ardgowan, Greenock  
 1919 Shaw-Stewart, The Lady Alice, Ardgowan, Inverkip  
 1922 Smith, John, Broompark, Pollokshaws  
 1912 Snodgrass, Matthew, Old Mains, Inchinnan  
 1891 Speirs, Alex. Archibald Hagart, of Elderslie, Houston House, Houston  
 1914 Speirs, Peter, Duchal Mais Farm, Kilnmalcolm  
 1905 Steven, Robert, Kennishead, Thornliebank  
 1905 Steven, Thomas, Wardhill, Nitshill  
 1912 Stevenson, James, Wardend, Milliken Park  
 1913 Stevenson, Matthew, jun., Linburn, Inchinnan  
 1908 Stewart, James, Carrot, Eaglesham  
 1912 Stirrat, Robert, Blackstoun Home Farm, Paisley  
 1905 Strang, George, Leggatston, Nitshill

## Admitted

- 1905 Strang, William, Upper Darnley, Nitshill  
 1912 Taylor, Thomas, Moss-side, Paisley  
 1913 Telfer, John, Branchal, Bridge of Weir  
 1912 Turner, William, Loanhead, Houston  
 1913 Walker, James, Brounsfield, Renfrew  
 1913 Walker, Robert Steuart, 11 William Street, Greenock  
 1913 Waters, Archibald F. C., Westmarch House, Paisley  
 1900 Watson, Alexander, Greenfield, Eaglesham  
 1921 Watson, Robert, 39 Cochrane Street, Paisley  
 1919 Whiteford, James, Cauldcoats Farm, Mearns, near Glasgow  
 1912 Williamson, Robert, Penwold, Bridge of Weir  
 1912 Wilson, Alexander, Thornly Park, Paisley  
 1894 Wilson, James, Boghall, Houston  
 1913 Wilson, James, Capellie, Neilston  
 1912 Wilson, James, Manawraes, Bridge of Weir  
 1883 Wilson, John, *last known address*, Erskine, Bishopton  
 1910 Wilson, Robert, Craig of Neilston, Neilston  
 1897 Wilson, Robert, West Hurlett, Barrhead  
 1912 Wilson, Thomas, Jaapston, Neilston  
 1923 Winning, Herbert, "Craignair," Bridge of Weir  
 1912 Young, James L., 41 Gordon Street, Paisley  
 1883 Young, R. C., of Shoddesden, Netherfield, Georgetown  
 1913 Young, Robert, 41 Gordon Street, Paisley  
 1913 Young, William, 30 Causyside, Paisley  
 1905 Young, William, Haugh Farm, Nitshill  
 1912 Young, William N., Fulwood Mains, Houston

NUMBER OF MEMBERS, 1903.

## 2.—PERTH DIVISION.

## EMBRACING THE

COUNTIES OF FIFE, FORFAR (WESTERN DISTRICT), KINROSS,  
AND PERTH (PERTH SHOW DIVISION).

## FIFE.

Admitted  
 1919 Abbie, William, Chance Inn, Crail  
 1919 Adam, David, Middle Grange, East Grange, Dunfermline  
 1905 Adam, James, East Grange Mains, Dunfermline  
 1900 Adamson, David, Bruckley, Dairsie  
 1920 Aird, James, Balbeardie Farm, Kirkcaldy  
 1911 Aird, John, Balbeardie Farm, Kirkcaldy  
 1888 Aitken, George Lewis, Boglilly, Kirkcaldy  
 1921 Aitken, James, Thistle Street Dairy, Dunfermline  
 1901 Aitken, Captain John C., 46 South Street, St Andrews  
 1911 Allan, James, Donibristle Home Farm, Aberdeen  
 1919 Alston, Thomas, Ingrie, Leslie  
 1888 Anderson, David A., 80 Crossgate, Cupar-Fife  
 1905 Anderson, J. L., Pittormie, Dairsie  
 1904 Anderson, John, Newbigging of Ceres, Cupar-Fife  
 1922 Anderson, John, Glenellyn, Main Street, Thornton  
 1911 Anderson, Major Robert G., O.B.E., T.D., F.R.C.V.S., 184 Bonnygate, Cupar-Fife  
 1920 Anderson, Thomas M., Cunzie Street, Anstruther  
 1911 Anderson, W., M.R.C.V.S., Pittenweem  
 1920 Andrews, John T., Lahill Mains, Largo  
 1892 Andrews, Sir R., of Balcaiskie, Bart., Pittenweem  
 1885 Anstruther-Duncan, Mrs C. H. A., of Naughton, Dundee  
 1904 Anstruther-Gray, Lieut.-Colonel William, of Kilmany, Cupar-Fife  
 1911 Armit, John, Newtonhall, Kennoway  
 1922 Arnot, David, Weddersbie, Collessie  
 1900 Arnot, Patrick, Moonzie, Cupar-Fife  
 1894 Auchmuty, George, Craighhead, Crail  
 1884 Auchterlonie, James, Leckerstone, Dunfermline  
 1919 Auchterlonie, John R., Primrose, Dunfermline  
 1920 Baillie, David, Lyne Tavern, Netherton, Dunfermline  
 1920 Baird, William James, Elie House, Elie  
 1884 Balfour, Edward, of Balbirnie, Markinch  
 1912 Ballingal, Robert, Balgonie Estate Office, Markinch  
 1908 Ballingall, George, Nether Strathkinness, St Andrews  
 1922 Banks Edward, Pitcaidie, Kirkcaldy

Admitted  
 1920 Barclay, John, 174 Chalmers Street, Dunfermline  
 1900 Barclay, Patrick, Manorlays, Cardenden, Fife  
 1886 Baxter, Edward Gorrel, of Teasses, Largo  
 1921 Baxter, John M'Nee, Brucefield Farm, Dunfermline  
 1900 Beath, Thomas, Marine Villa, Kinghorn  
 1912 Bell, Alexander M., of Fairfield, Colinsburgh  
 1922 Bell, David Arnot, Pusk, Leuchars  
 1893 Bell, George, Lundin Mill, Largo  
 1919 Bell, George, jun., Cameron Farm, St Andrews  
 1880 Bell, John, Edzell, Lundin Links  
 1903 Bell, John C., Randerston, Kingsbarns  
 1912 Bell, John W., jun., Balboothie, Kilconquhar  
 1893 Bell, P. A., Pusk, Leuchars  
 1897 Bell, Robert, Upper Kenley, Boarhills, St Andrews  
 1877 Bennet, Arthur, Scotland Wells, Leslie  
 1919 Bennett, Robert, 39 Halbeath Road, Dunfermline  
 1896 Berry, William, of Tayfield, Newport, Fife  
 1915 Berwick, Andrew, of Hayston, Leuchars  
 1920 Berwick, Andrew, Pittauchop, Cupar-Fife  
 1912 Berwick, Andrew, Wormistone, Crail  
 1912 Berwick, David, St Andrews Road, Ceres  
 1904 Berwick, John, Barbarafield, Cupar-Fife  
 1898 Berwick, P. W., Ardross, Elie  
 1922 Berwick, Thomas, Headwell Farm, Dunfermline  
 1912 Berwick, William, Balcormo, Largo  
 1912 Berwick, William, Balgarvie, Cupar-Fife  
 1909 Bethune, Lieut.-Col. H. A., of Mountquhanie, Cupar-Fife  
 1921 Beveridge, F. S., St Leonard's Hill, Dunfermline  
 1920 Black, David, Balmuto, by Kirkcaldy  
 1912 Black, David, Tullybreck, Thornton  
 1911 Black, William, Charlestown Lime Works, Dunfermline  
 1900 Blair, David, Littleinch, Wormit  
 1919 Blythe, Andrew, Grange, Burntisland  
 1920 Bonthron, William S., 7 Melville Terrace, Anstruther  
 1911 Bonthrone, David, Newton of Falkland, Falkland, Fife  
 1895 Bonthrone, James, Pitcairn, Cardenden  
 1911 Bonthrone, William, Forthar, Kingskettle

## Admitted

- 1899 Bowman, David W., Balcormo, Pittenween  
 1919 Braes, Hugh, Banks Farm, Aberdour  
 1916 Breen, William W., 9 Murray Place, St Andrews  
 1919 Brenigan, William, Raith Arms Inn, Cowdenbeath  
 1902 Brown, Alexander, Airdrie, Anstruther  
 1919 Brown, Alexander, Pitcoorthie Mains, Kilconquhar  
 1911 Brown, Andrew, Kincraig, Elie  
 1919 Brown, David, Strathearn, Victoria Terrace, Dunfermline  
 1920 Brown, E. H., Crown Hotel, Thornton  
 1920 Brown, H. K., Automobile Engineer, Crown Garage, Thornton  
 1919 Brown, James, Balmule Farm, Dunfermline  
 1911 Brown, John, Glentarkie, Strathmiglo  
 1919 Brown, Thomas, Pitcoorthie Mains, Kilconquhar  
 1920 Bruce, Lieut.-Colonel Hon. David, Factor, Estate Office, Charlestown  
 1919 Bryce, D. W., Crombie, Cairneyhill, Fife  
 1919 Buchanan, James, Balgownie Mains, East Grange, Fife  
 1911 Burns, Peter D., Gellat, Dunfermline  
 1906 Buttercase, David L., Uthrogie, Cupar-Fife  
 1906 Butters, James, Masterton, Dunfermline  
 1921 Cadzow, Andrew F., Blacketyside, Leven  
 1912 Cairns, Charles, Holmsdale, Cupar-Fife  
 1901 Cairns, James, Abercrombie, St Monance, Fife  
 1904 Cairns, James, Mount Stuart, Elie  
 1904 Cairns, William Roger, Cambo Farm, Kingsbarns (House, Ashburn, Crail)  
 1911 Calder, John W., Corston Mill, Gate-side  
 1906 Cameron, Charles A., Wormistone House, Crail  
 1912 Cameron, Dr, Hillside, Ceres, Cupar-Fife  
 1905 Cameron, James, Tayside, Newburgh, Fife  
 1902 Campbell, John T., Starr Farm, Cupar-Fife  
 1919 Carson, James, Thistleford Farm, Cowdenbeath  
 1905 Carstairs, John, Carnbee, Pittenween  
 1885 Carswell, J. H., Rostellan, Cupar-Fife  
 1886 Cathcart, Lieut.-Col. James T., of Pitcairrie, Newburgh  
 1901 Cheape, Brig.-Gen. G. R. H., Wellfield, Gateside, Fife  
 1881 Cheape, J., of Lathockar, Straththyrum, St Andrews  
 1879 Christie, F. W., Edenview, Cupar-Fife  
 1890 Christie, James M., of Morton, Tayport  
 1920 Christie, Robert M., Durie, Leven  
 1889 Clark, Alexander, Chestnuts, Lundin Links  
 1905 Clark, Alexander, Newton, Markinch  
 1906 Clark, Allan, Woodbank, Windygates  
 1920 Clark, William, Victoria Dairy, Tayport  
 1900 Clark, William, Strathore House, Thornton  
 1905 Clement, D. W., East Pitkerrie, Anstruther  
 1894 Clement, John, South Dron, Dairsie, R.S.O.  
 1920 Cochran, James E., Burnton Barns, Markinch  
 1882 COCHRANE, Lord, of Cults, Crawford Priory, Springfield  
 1919 Cocker, George A., Lundin and Montrose Estates Office, Largo

## Admitted

- 1923 Cook, Andrew, Bankhead, Thornton  
 1912 Cook, David, Clydesdale Bank House, Anstruther  
 1909 Cowan, H. Hargrave, The Pond Cottage, Culross  
 1922 Craig, Robert, c/o William Craig, Couston, Aberdour, Fife  
 1905 Craig, William, Couston, Aberdour, Fife  
 1920 Cranna, Adam, Corston, Ladybank  
 1905 Cranna, Charles J., Orwell, Ladybank  
 1912 CRAWFORD, The Earl of, Balcarras, Fife  
 1920 Crawford, Henry, New Farm, Cardenden  
 1920 Crichton, George Johnstone, Walmer House, Ladybank  
 1911 Crichton, James B., of Luthriebank, Cupar-Fife  
 1920 Crichton, John, Roselea, Ladybank  
 1905 Cunningham, W. G., Dalachy, Aberdour, Fife  
 1919 Dalgleish, James P., West Grange, East Grange Station, Dunfermline  
 1922 Dalgleish, Laurence J. O., West Grange, East Grange Station, Dunfermline  
 1906 DALZIM, Sir T. Kennedy, Nether Kenneddar, Saline, Fife  
 1901 Dand, John R., Preston Lodge, Cupar-Fife  
 1919 Davidson, John, Colton of Pittencrieff, Dunfermline  
 1889 Davidson, Peter, East Craigfoodie, Dairsie, R.S.O.  
 1896 Davidson, Thos., Branxton and Cowden-laws, Dysart  
 1912 Davie, James, North Glassmont, Kirkcaldy  
 1919 Dick, George, Saddler, Lochgelly  
 1919 Dick, Mrs William, Transy Law, Dunfermline  
 1912 Dickie, Alexander N., Caipie, Crail  
 1911 Dickie, Alexander S., Grahamstone, Leslie  
 1894 Dickie, Alfred, Devon, Kennoway  
 1919 Dickie, D. Marshall, Seafield, Inverkeithing  
 1907 Dickie, Henry, Seafield, Inverkeithing  
 1912 Dickie, James N., Devon, Kennoway  
 1911 Dickie, John, Kettle Farm, Kingskettle  
 1919 Dickie, Major R., Seafield, Inverkeithing  
 1899 Dingwall, Andrew, Hally Bank, Lundin Links  
 1911 Donaldson, George, West Holm, Kirkcaldy  
 1911 Donaldson, George, The Elms, Leven, Fifeshire  
 1894 Dott, Robt., last known address, Muir Farm, Pathhead, Kirkcaldy  
 1914 Dougall, John, Lassodiemill Farm, Dunfermline  
 1879 Dow, David, of Rossie, Auchtermuchty  
 1898 Dow, James F., Muirton, Kirkcaldy  
 1919 Drummond, James, Nerry Knowes, Cardenden  
 1922 Drybrough, T. Greenless, Orkie, Freuchie  
 1923 Drysdale, William, Jun., Inchgall Farm, Glencairg  
 1919 Dudgeon, D. A., Pratis, Leven  
 1884 Dun, George, Grange, Upper Largo  
 1920 Duncan, Hugh B., Letham, Collesie  
 1921 Duncan, John, Cornhill, Collesie  
 1871 Duncan, John, Easter Balmorynch, St Andrews  
 1883 Duncan, John, of Kirkmay, Crail  
 1919 Duncan, Peter, Ribbonsfield, Crail, Fife  
 1919 Durie, D., Newcainey, Cupar-Fife  
 1913 Dykes, William H., Falkland Home Farm, Falkland

## Admitted

- 1911 Easson, Adam, Merryhill, Charlestown  
 1919 Easson, George, Sheephouswell, Dunfermline  
 1909 Easson, Joseph, Easter Pitcoorthie, Dunfermline  
 1922 Eekford, Alexander Herbert, Mavis Haugh, St Andrews  
 1897 Edie, Harry Hay, Corncees, Anstruther  
 1920 Edwards, Robert, Farm Manager, Hilton Farm, Kelty  
 1919 Elder, Archibald J., City Mills, Dunfermline  
 1881 Elder, Hugh, Dunfermline  
 1911 Elgin and KINCARDINE, C.M.G., The Earl of, Broomhall, Dunfermline  
 1911 Erskine, T. H., Grangemuir, Pittenweem  
 1908 Fair, Alexander, Annfield, Crossgates, Dunfermline  
 1920 Fair, Alexander, Duniface, Windygates  
 1898 Fair, David, Duniface, Windygates  
 1906 Fair, George, Camilla, Auchtertool, Kirkcaldy  
 1910 Fair, John, Orrook Farm, Burntisland  
 1923 Ferguson, William, Newtown Dairy, Kirkcaldy  
 1900 Ferguson, William Crawford, Foxton, Cupar  
 1875 Fernie, James A., 2 Greenmount Gardens, Burntisland  
 1922 Findlay, Andrew R., Orchardflat, Auchtermuchty  
 1909 Finlayson, George W., Kirton, Culross  
 1908 Fleming, Alexander, Boarhills, Fife  
 1893 Fleming, Andrew, Baukhead, Leven  
 1920 Fleming, David L., Prestonhall, Cupar-Fife  
 1905 Fleming, William, Rennyhill, Anstruther  
 1910 Fletcher, Duncan, jun., Lettermore, Cameron Street, Dunfermline  
 1911 Foord, James, Netherton of Buckleyvie, Crossgates  
 1873 Forgan, James, Sunnybraes, Lundin Links  
 1911 Forrester, James, Whinnyhall, Kinglassie  
 1908 Forrester, William Andrew, Elie  
 1922 Forsyth, Thomas, Bankhead, Raith, Kirkcaldy  
 1922 Fotheringham, William, West Saline, Oakley  
 1919 Fowler, Alex., Syssis, Crail  
 1921 Frame, Charles, jun., Over Inzievar Farm, Oakley  
 1920 Frame, John, Over Inzievar Farm, Oakley  
 1904 Fulton, Adam, Netherton, Kelty  
 1913 Fulton, John, Balmule, Burntisland  
 1905 Gavin, George, Estate Office, Falkland Palace, Falkland  
 1871 Gibb, David, Barnismuir, Crail  
 1909 Gibb, James, Lochty-side, Thornton  
 1898 Gibb, William G., Pitteuchar, Thornton  
 1908 Gibson, John, Lochend, Leslie  
 1908 Gibson, John, Woodmill, Auchtermuchty  
 1921 Gilchrist, John, Potato Merchant, Auchtermuchty  
 1896 Gilchrist, William, Nursery Cottage, Mount Melville, St Andrews  
 1920 Giles, George, Hillhead, Boarhills  
 1897 Gilmour, Captain Harry, Denbrae, Cupar-Fife  
 1897 Gilmour, Colonel Sir John, Bart., M.P., D.S.O., of Montrave, Bart., Leven  
 1919 Goodall, David (Goodall's Stables), Queen Anne Street, Dunfermline  
 1911 Goodall, William, Balgreggie, Cardenden  
 1896 Gordon, Rev. Zneas G., The Mause, Kettle

## Admitted

- 1888 Gourlay, Captain J. Murray, Prior's Cottage, Stravithie Station, Fife  
 1919 Graham, David, Kingoraigie, Strathmiglo  
 1919 Graham, Thomas, Wilkieston, Cupar-Fife  
 1919 Grant, James W., Bellsie, Burntisland  
 1903 Grassick, W. H., Rankellour Mains, Springfield, Fife  
 1920 Gray, James, Mains, Stravithie  
 1920 Gray, John, sen., Mains, Stravithie  
 1920 Gray, John, jun., Mains, Stravithie  
 1910 Gray, Thomas, Prathouse Farm, Crossgates  
 1912 Gray, William, Balantager Farm, Collessie  
 1911 Grey, Fred, Springfield Farm, Springfield, R.S.O.  
 1911 Grosset, Alfred E., Solicitor, Cupar-Fife  
 1896 Grosset, J. E., Solicitor, Cupar-Fife  
 1907 Haggart, James, jun., Baislie, Leslie  
 1921 Haig, Captain John A., Lawfield Farm, Ladybank  
 1911 Hamilton, John, jun., Goatmilk, Leslie  
 1912 Hardie, George, Lochgelly Mains, Lochgelly  
 1915 Hardie, William, Gallowridgehill, Dunfermline  
 1921 Harley, John, Pitbauchlie Farm, Dunfermline  
 1911 Harper, Joseph, Rathillet, Cupar-Fife  
 1912 Heggie, William, Priorybank, Dunfermline  
 1891 Henderson, A. L., Kingsdale, Windygates  
 1920 Henderson, David, 121 Main Street, Lochgelly  
 1920 Henderson, Edward, 233 Baldrigeburn, Dunfermline  
 1922 Henderson, Miss Isa, 121 Main Street, Lochgelly  
 1911 Henderson, James, Meadowwells, Collessie, Fife  
 1913 Henderson, John, 121 Main Street, Lochgelly  
 1922 Henderson, Miss Kate, 121 Main Street, Lochgelly  
 1912 Henderson, Robert, 80 Main Street, Lochgelly  
 1913 Henderson, William, Reedleleys, Auchtermuchty  
 1920 Herd, Herbert J., Whitebank, Kirkcaldy  
 1895 Hewitt, Hon. William James, St Colme's House, Aberdeen, Fife  
 1910 Hill, Robert D., East Baldrige, Dunfermline  
 1901 Hill, Thomas, jun., Boarhills, St Andrews  
 1919 Hill, William E., Pitdinnie Cottage, Cairneyhill, Dunfermline  
 1905 Holmes, John, Coal, St Monance  
 1909 Home-Rigg, Patrick J., Tarvit, Cupar-Fife  
 1887 Howie, Archibald, Grange Farm, Kinghorn  
 1920 Howie, John, Dumbarnie, Largo  
 1909 Howie, John, Newark Farm, St Monance  
 1891 Husband, Robert, Solicitor, Dunfermline  
 1922 Hutcheson, Arthur, Greenside, Leven  
 1891 Hutton, John, Giblston, Colinsburgh  
 1900 Inglis, James, Barnslee, Markinch  
 1891 Inglis, James, Redhouse, Cardenden, R.S.O.  
 1909 Ireland, H. B., Ballindean, Kilmany  
 1895 Irving, John, Fernlen, Cupar-Fife  
 1912 Jack, Peter Christie, Wester Kinnear, Wormit, Fife

## Admitted

- 1896 Jamieson, W., Estate Office, Elie  
 1921 Jardine, Thomas, jun., Freuchie Mill, Freuchie  
 1898 Jeffrey, Robert, Drumfin, Torryburn  
 1902 Johnston, Andrew, Naville House, Glen-craig, Fife  
 1920 Johnston, John, Farm Manager, Scots-craig Mains, Tayport, Fife  
 1892 Johnston, S. W., St Michael's, Cupar-Fife  
 1911 Kay, James, Fliskmillan, Newburgh  
 1909 Kennedy, Alexander, Blackhall, Dunfermline  
 1922 Kennedy, George W., 80 High Street, Dunfermline  
 1910 Kennedy, James, Contractor, 74 Holy-rood Place, Dunfermline  
 1898 Kidd, John, West Downie Mount, Tayport, Fife  
 1912 Kininmonth, John B., Wester Colquhally, Lochgelly  
 1912 Kinnaird, William, Overton and Carberry Farms, Kirkcaldy  
 1921 Kirk, David, Easter Bonhard, Dunfermline  
 1919 Kirk, Hugh, Easter Bonhard, Dunfermline  
 1920 Kirkcaldy, David, Rameldrie, Kingskettle  
 1919 Kirkwood, Alex. H. (Dunfermline Co-operative Society), Methven Drive, Dunfermline  
 1879 Knight, Robert, V.S., Abbot's House, Maygate, Dunfermline  
 1919 Knox, John, Wester Gellat, Dunfermline  
 1921 Kyle, Thomas Watson, Balaithly, Stravithie  
 1896 Laidlaw, A. H., Strathaven, St Andrews  
 1900 Laird, John, Oaskieberran, Leslie  
 1911 Lamont, James M., Bullions, Dunfermline  
 1928 Landale, David (Douglas & Grant, Ltd.), Kirkcaldy  
 1878 Landale, James, The Binn, Burntisland  
 1909 Lang, Robert, Crossford, Hilton, Dunfermline  
 1896 Law, James, Spencerfield, Inverkeithing  
 1891 Lawson, Major Alexander, of Burnturk, Annfield, Kingskettle, Fife  
 1908 Lawson, John, of Carriston, Markinch  
 1918 Lawson, William H., Firthfield, Anstruther  
 1919 Lean, John, Croftgary Farm, Aberdeen  
 1919 Lean, Samuel, Monzie Hall, Crossgates  
 1884 Lees, David, of Pitacottie, Cupar  
 1920 Lees, David, jun., Baldastard, Largo  
 1912 Lees, George, Baldastard, Largo  
 1912 Lees, John, Royal Hotel, St Andrews  
 1897 Leitch, Richard G., Cameron, Windygates  
 1896 Lesslie, William Smith, Banchory, Kirkcaldy  
 1907 Letham, John, Fernbank, Largo  
 1920 Lindsay, Earl of, Kilconquhar House, Kilconquhar  
 1919 Livingstone, Dugald, Bankhead Farm, Burntisland  
 1911 Lochhead, Joseph, Upper Stenton, Thornton  
 1889 Lochhead, Matthew, Wood's Hospital, Upper Largo, Fife  
 1919 Low, John, Upper Pitlochrie, Gateside  
 1904 Low, William, of Blebo, Cupar-Fife  
 1911 Lumsden, George James, Tarvit House, Cupar-Fife  
 1895 Lumsden, John Lowson, Eden Valley House, Freuchie

## Admitted

- 1904 Lyle, Alexander, Auchmuty Farm, Markinch  
 1914 Lyon, Edmond, Newton, East Wemyss  
 1919 M'Aulay, Andrew, Lathalmond, Dunfermline  
 1899 Macdonald, A., Blacklaw, Dunfermline  
 1901 M'Donald, Gordon J., Devonside, Saline  
 1921 Macdonald, William, Sandydub, Saline  
 1901 M'Farlane, James, Torr of Moonzie, Cupar-Fife  
 1919 M'Farlane, John, Mains of Kinnedder, Oakley, Fife  
 1901 M'Garva, Gilbert R., Estates Office, Collinsburgh  
 1919 Macgregor, Harry, Macedonia Farm, Leslie  
 1890 M'Gregor, James F., 73 Market Street, St Andrews  
 1919 Macgregor, James F., Annfield, Dunfermline  
 1912 M'Innes, James, jun., Westgate, Markinch  
 1878 M'Intosh, Dr, 2 Abbotsford Crescent, St Andrews (and Nevay Park, Forfarshire)  
 1885 Mackenzie, R. W. R., Earlsall, Leuchars  
 1869 M'Kinlay, John, Bank Street, Kin-cardine-on-Forth  
 1919 M'Lachlan, Donald, Standalane, Oakley, Fife  
 1908 Maclellan, Walter R., of Kinsleith, Cupar-Fife  
 1920 Macnaughton, T. G., Parkhouse Dairy, Crossgates  
 1918 Macniven, William, Royal Bank, Kirkcaldy  
 1912 M'Pherson, Donald, Fosterton, Thornton  
 1928 M'Vean, Dugald, North Bank, St Andrews  
 1915 M'Vean, Duncan, Easter Cartmore, Lochgelly  
 1905 Marshall, Harley, of Dunduff, Dunfermline  
 1879 Marshall, Walter, of Lochmaloney, Cupar  
 1908 Martin, James, Johnstone Farm, Newburgh-on-Tay  
 1918 Martin, John, Church Street, St Andrews  
 1920 Martin, Robert F., Dunsloy, Dunfermline  
 1910 Mathewson, William, Middlebank, Dunfermline  
 1912 Mechie, John, Miller, Auchtermuchty  
 1879 Meikle, William, Kellock Lane, Strathkinness, St Andrews  
 1898 Meiklem, William, Begg, Kirkcaldy  
 1919 Melrose, Robert, West Baldrige, Dunfermline  
 1920 Melville, James, jun., Carskerdo, Cupar-Fife  
 1919 Methven, Thomas, Rankellour, Springfield, Fife  
 1897 Millar, George, Nydie Mains, St Andrews  
 1877 Millar, J., of Waukmill, Dunfermline  
 1921 Miller, Alexander, "Hawarden," Buffie's Brae, Dunfermline  
 1904 Miller, James W., Lochhead, West Wemyss  
 1870 Millie, George, St Mary's, Cupar-Fife  
 1898 Milne, John, last known address, Annfield, Cardenden  
 1912 Milne, Thomas, Gowrie Cottage, Freuchie  
 1894 Mitchell, Colonel Alexander, of Lussac, Dunfermline



## Admitted

- 1905 Mitchell, H. Q., Newbigging, Burntisland  
 1922 Mitchell, James Fleming, Easter Lathrisk, Ladybank  
 1898 Mitchell, John, *last known address*, Glen-trie, Kirkcaldy  
 1919 Mitchell, John, East Mill, Strathmiglo  
 1904 Mitchell, Robert T., of Newington, Cupar-Fife  
 1899 Mitchell, Stuart, *last known address*, Newbigging, Burntisland  
 1907 Mitchell, William, Calais, Dunfermline  
 1919 Monro, John, Eclipse Implement Works, Meldrum Road, Kirkcaldy  
 1922 More, Henry, Denbrae Farm, St Andrews  
 1912 Morgan, George B., Nisbetfield, Ladybank  
 1905 Morgan, John, Kilgour, Falkland, Fife  
 1906 Morris, Andrew Ireland, West Pitkierie Farm, Anstruther  
 1919 Morrison, A. B., Lower Kenley, St Andrews  
 1878 Morrison, B. G. W., of Falfield, Cupar-Fife  
 1902 Morrison, E. E., Balmonth, Pitten-weem  
 1919 Morrison, John, Grangehill, Elie  
 1915 Morton, James, Ansonhill House, Cross-gates  
 1894 Morton, John G., *last known address*, Wormiston, Crail  
 1912 Moubay, Major E. C., The Pleasants, Aherdour  
 1894 Moubay, Major W. H. H. Carew, of Otterston, Cockairnie, Aherdour  
 1919 Muir, James, Beley Farm, Stravithie, Fife  
 1913 Muirhead, Andrew, Demperton, Auchtermuchty  
 1903 Mungall, William, of Transy, Dunfermline  
 1903 Murray, James, Balmerino, Wormit  
 1902 Murray, James, Jesmond House, Largo, Fife  
 1910 Murray, James, Raith Arms Inn, Cowdenbeath  
 1919 Nairn, Emily Frances Lady, Rankellour Mains, Springfield, Fife  
 1920 NAIRN, Sir Michael, Bart., Dysart House, Fife  
 1911 Nairn, Major R. Spencer, Leslie House, Leslie  
 1914 Neilson, Walter P., Baltelly, Ceres  
 1919 Ness, Archibald, Cash Mill Farm, Auchtermuchty  
 1896 Nicholson, W. D., Hopedene, Elie  
 1919 Nicoll, George, Rosebank, Gateside, Fife  
 1905 Niven, Alexander, of Collairnie, Ladybank  
 1919 Niven, John, Abbey Poultry Yards, Newmills, Fife  
 1922 Niven, Provost William, Grangehills, Kinghorn  
 1882 NOVAR, Viscount, of Raith, Kirkcaldy  
 1921 Ogilvie, James, Keirs Farm, Upper Largo, Fife  
 1882 Osborne, David, Banker, Belmore, Cupar-Fife  
 1921 Osborne, John M., Blairmain, Culross  
 1913 Osborne, Thomas, Beverkae Farm, Donibristle  
 1921 Osborne, William, Overton Farm, East Grange, Dunfermline  
 1911 Oswald, Colonel St Clair, of Dunnikier, Kirkcaldy  
 1911 Pagan, R. Osborne, Weston, Cupar-Fife

## Admitted

- 1919 Page, George, Easter Upper Urquhart Farm, Gateside  
 1912 Park, Matthew, Chapel, Kirkcaldy  
 1912 Park, Robert, 45a High Street, Kirkcaldy  
 1913 Paterson, Thomas, Kinnaird, Dairsie, R.S.O.  
 1919 Paton, James, Kirkness, Glencraig, Fife  
 1910 Pattullo, James Adam, Lathrisk, Freuchie  
 1911 Peat, James, Edenwood, Cupar-Fife  
 1912 Penrice, George, Piteruvie, Largo  
 1920 Philp, A. C., C.A., 143 High Street, Dunfermline  
 1913 Pilkington, Reginald M., St Fort, Newport  
 1919 Piper, James, The Grange, Burntisland  
 1893 Porter, James, Prinlaws House, Leslie  
 1889 Purvis, Brig.-General Alexander, R.A., c/o Colonel J. H. Purvis of Kinaldy, Stravithie, Fife  
 1905 Purvis, Major R. W., of Gilmerton, St Andrews  
 1919 Ramage, Matthew, Ashgrove, Cameron Bridge, Fife  
 1919 Readie, William G., 8 Melville Terrace, Anstruther  
 1886 Reid, Andrew, V.S., *last known address*, Auchtermuchty  
 1911 Reid, Robert, M.R.C.V.S., Millgate, Cupar-Fife  
 1922 Reid, Thomas, West Finglassie, Leslie  
 1912 Reid, Thomas William, West Hall, Cupar  
 1919 Rintoul, Miss Leonora Jeffrey, Lahill, Largo  
 1893 Rintoul, William, 15 Bell Street, St Andrews  
 1919 Rintoul, William, Kilmux, Leven  
 1904 Ritchie, James M., Denhead, Ceres, Fife  
 1911 Robertson, John, Walton, Auchtertool  
 1916 Robertson, John (R. Steele & Brodie), Wormit Works, Wormit  
 1920 Robertson, John, The Barony, Cupar-Fife  
 1920 Robertson, Robert, Ballingry Road, Lochore, Glencraig, Fife  
 1921 Robertson, William, Grangemuir, Pitten-weem  
 1923 Robertson, Major W. B., M.C., Colton, near Dunfermline  
 1919 Robertson, William C., Cash Feus, Strathmiglo  
 1907 Rodger, Andrew, Kellie Castle Farm, Pittenweem  
 1899 Roger, John M., Balgove, St Andrews  
 1923 Roger, William S., Rowanlea, Kings-kettle  
 1920 Rollo, Andrew, Pinkerton, Crail  
 1900 Rollo, D. M., Solicitor, Cupar-Fife  
 1900 Rollo, W., Easter Forret, Cupar-Fife  
 1891 Ross, Nicol, Navitie House, Glencraig, Fife  
 1905 RORNES, Earl of, Leslie House, Leslie  
 1895 Russell, Major George, Muircambus House, Kilconquhar  
 1919 Russell, Hugh Stewart, Pilmuir, Lundin Links  
 1920 Russell, Robert Reid, Alburne Knowe, Markinch  
 1921 Salmond, James B., The Glen, Glencraig, Fife  
 1911 Scobie, George R., Methilhill Farm, Windygates  
 1893 Scott, Douglas, Newton of Wemyss, Fishiehire  
 1921 Scott, John, 25 High Street, Dunfermline

## Admitted

- 1922 Scott, Peter, Market Gardener, Drumeldrie, Largo  
 1892 Sellar, P., 11 Alexandra Place, St Andrews  
 1907 Shanks, Alexander, Falkland Wood Farm, Falkland  
 1906 Sharp, Mrs F. B., Hill of Tarvit, Cupar-Fife  
 1904 Sharp, James, 1 Park Street, St Andrews  
 1909 Shaw, John, Treaton Farm, Markinch  
 1904 Shiell, James Guthrie, Cairney, Cupar-Fife  
 1899 Sidey, James, *last known address*, Blinkbonny, Newburgh  
 1908 Sime, John Thomson, Bayview, Drumeldrie, Largo  
 1920 Sime, Robert, *last known address*, Nether Magask, St Andrews  
 1900 Sime, William Webster, Ladyinch, Cupar-Fife  
 1912 Sinclair, Thomas, Leuchatsbeath, Cowdenbeath  
 1904 Small, John, Mount Farm, Cupar-Fife  
 1911 Small, John, Auctioneer, Cupar-Fife  
 1904 Small, Robert, Ladybank  
 1904 Smith, Andrew, Canada Cottage, Ceres  
 1911 Smith, Andrew, Bankhead, Windygates  
 1911 Smith, D. D., Seedsman, St Catherine Street, Cupar-Fife  
 1897 Smith, James M., Priestfield, Ladybank  
 1886 Smith, Thomas, Inverdotat, Newport  
 1915 Smith, W., South Parks, Leslie  
 1893 Smith-Sligo, Archibald D., of Inzievar, Oakley, Fife  
 1888 Snor, Colonel Sir A., of Garnkirk and Stravithie, Bart., C.M.G., Stravithie House, Stravithie  
 1920 Stanford, James, Flass Farm, Newport  
 1920 Steedman, Robert, District Inspector, Yorkshire Insurance Co., Ltd., 77 Queen Anne Street, Dunfermline  
 1919 Steele, George, Lalathan, Kennoway  
 1907 Stevenson, Thomas, Sauchenbush, Kirkcaldy  
 1919 Stewart, Henry R., of Keavil, Dunfermline  
 1904 Stewart, John, Struthers, Cupar-Fife  
 1919 Stewart, William, Lumphinnans Farm, Cowdenbeath  
 1923 Stirling, James Wilson, Solicitor, Dunfermline  
 1893 Stirling, John, Glenisla, Lundin Links  
 1912 Stirrat, James, Higham, Newburgh, Fife  
 1920 Storrar, Alexander, Newton, Wormit  
 1900 Storrar, Christopher, Dalginch, Markinch  
 1890 Storrar, David, Land Surveyor, Shiels, Ladybank  
 1912 Storrar, J. W., Melville Home Farm, Ladybank  
 1891 Storrar, Richard, Starles, Ladybank  
 1905 Strang, Robert, of Collesie Mill, Ladybank  
 1911 Struthers, James, Cairn Farm, Largoward  
 1919 Sutherland, Peter T., Estate Office, Charleston, Collinsburgh  
 1920 Suttie, George, Bonnyton, Largo  
 1920 Suttie, William, Braxnton, Largo  
 1913 Syme, William, Craigie, Leuchars  
 1912 Taylor, John, Levenmouth, Leslie  
 1921 Taylor, John, jun., Levenmouth Farm, Leslie  
 1893 Taylor, William (J.P.), Craigside (West), Wormit, Fife  
 1923 Templeman, Ebeneser, North End, Kirkcaldy

## Admitted

- 1922 Thom, James A., Welsgreen, Windygates, Fife  
 1875 Thom, James F., Howiegate, Markinch  
 1918 Thompson, David, Campbell Street, Dunfermline  
 1912 Thoms, David Wedderburn, of Feddinch, St Andrews  
 1919 Thomson, David, Carneil, Carnock, Fife  
 1899 Thomson, David (Flear & Thomson), Dunfermline  
 1922 Thomson, Duncan Wallace, Easter Newburn, Largo  
 1902 Thomson, George, Balhousie, Anstruther  
 1919 Thomson, Henry, Percival, Buckhaven  
 1897 Thomson, James, Orkie Mills, Kingskettle  
 1915 Thomson, John, West Bonhard, Carnock, Dunfermline  
 1896 Thomson, John R., of Orkie Mill, Kingskettle  
 1911 Thomson, Joseph, Blairfarm, Dysart  
 1923 Thomson, Robert, Lady Campbell Walk, Dunfermline  
 1922 Thomson, Thomas Duncan Bicket, Easter Newburn, Largo  
 1914 Thomson, William, Kirkton Farm, Cowdenbeath  
 1896 Thornton, Robert, North Pitkinnie, Cardenden  
 1922 Todd, James, Denmuir, Newburgh-on-Tay  
 1919 Torrance, David, Knockhouse, Crossford, Dunfermline  
 1919 Tullis, David B. (Goodall's Stables), Queen Anne Street, Dunfermline  
 1912 Tullis, George, George Hotel Stables, Kirkcaldy  
 1896 Tulloch, John B., Dales, Inverkeithing  
 1912 Turnbull, C. W., Newton, Auchtertool  
 1893 Turnbull, Mark, Dunholm, Kingsbarns  
 1919 Turnbull, Walter, Boghall, Kingsbarns  
 1919 Turnbull, William, South Cassingbay, Largoward, Fife  
 1896 Wadlie, Adam, Callange, Cupar-Fife  
 1920 Walker, Andrew, Balbarton, Kirkcaldy  
 1878 Walker, Archibald, Banker, Auchtermuchty  
 1920 Walker, David, Brownhills, St Andrews  
 1911 Walker, Peter, of Kingask, Cupar-Fife  
 1912 Walker, Thomas, Kilmaron, Cupar-Fife  
 1923 Wallace, Captain Andrew A., Halbeath House, Halbeath  
 1919 Wallace, Gordon, Drummod Farm, Cupar-Fife  
 1904 Wallace, Henry P., Upper Magark, St Andrews  
 1891 Wallace, John, Elphinstone, Lundin Links  
 1919 Wallace, Peter, Millowner, Auchtermuchty  
 1908 Wallace, Robert, Kincaipe, Guardbridge  
 1912 Wallace, Robert Walker, of Halbeath, Dunfermline  
 1883 Walls, Robert, Grange, Burntisland  
 1892 Wardlaw, John, *last known address*, Tough Mill, Dunfermline  
 1920 Wardlaw, Thomas, Newmills, Cupar-Fife  
 1911 Watson, Edward E., Barony House, Cupar-Fife  
 1904 Watson, Henry, National Bank Buildings, Anstruther  
 1878 Watson, J. Graham, St Margaret's Hope, North Queensferry  
 1920 Watt, Charles, 20 Rose Street, Tayport  
 1893 Watt, Frank M., of Caldwell's, Ladybank  
 1911 Watt, James, Gowan Park, Cupar-Fife  
 1882 Watt, W., Seed Merchant, Middlefield, Cupar-Fife  
 1919 Watt, William, Balbougie, Inverkeithing

## Admitted

- 1905 Webster, John, Southfield, Auchtermuchty  
 1890 Webster, Thomas, of Trynlaw, Cupar-Fife  
 1884 Weighiton, J. G., Priorletham, St Andrews  
 1923 Weir, D. M., Orkie, Freuchie  
 1912 Weir, Sam. W., Balcomie, Crail  
 1923 White, George, County Buildings, Cupar-Fife  
 1909 White, John, Newraw, Kincardine-on-Forth  
 1912 Whyte, William, Gilliesfaulds, Cupar-Fife  
 1919 Wilkie, John N., of Lacesston, Gateside  
 1910 Wilkinson, S. F., 47 Malcolm Street, Dunfermline  
 1911 Wilson, Alexander, Drumcooper Farm, Crossgates  
 1919 Wilson, Andrew, Anstruther Farm, Anstruther  
 1912 Wilson, A. K., Pipeland Farm, St Andrews  
 1907 Wilson, David, Bridgeend House, Ceres  
 1919 Wilson, Henry, Logie House, Cupar-Fife  
 1919 Wilson, James, Carvenom, Anstruther  
 1920 Wilson, James, Redvers Oak, Transy Place, Dunfermline  
 1913 Wilson, John, East Colquhally, Lochgelly  
 1922 Wilson, John, Mains of Beath, Crossgates  
 1939 Wilson, Quintin, Droverhall Farm, Crossgates  
 1906 Wilson, Robert, Spittal Farm, Cardenden  
 1900 Wilson, Robert S., Blinkbonny, Newburgh  
 1912 Wilson, Thomas, of Bulas, Cupar-Fife  
 1921 Wilson, William, Redvers Oak, Transy Place, Dunfermline  
 1912 Wingate, James, East Finglassie, Leslie, Fife  
 1912 Wingate, William, Byresloan, Markinch  
 1912 Wylie, Robert E., Crail Cottage, Newburgh, Fife  
 1859 Young, A., Kinloch, Colleslie  
 1922 Young, Matthew, Glenfoyle, Auchtertool, Fife  
 1909 Young, William, Craigencalt, Kinghorn  
 1919 Young, William, Woodhead Farm, Newmills  
 1875 Younger, J. B. R. C., Kinghorn  
 1919 Zuill, Peter F., Tapitlaw Farm, Oakley, Fife

## FORFAR

(WESTERN DISTRICT).

- 1910 Adamson, William G. D., Wemyss, Forfar  
 1901 AIRLIE, Earl of, Cortachy Castle, Kirriemuir  
 1919 Anderson, A. M'Kinlay, Kinpurnie, Newtyle  
 1920 Anderson, James, New Grange, Kincaldrum, by Forfar  
 1884 Anderson, James, last known address, Viewbank, Leysmill, Arbroath  
 1920 Anderson, Stewart, Gallowhill, Strathmartin, by Dundee  
 1890 Andrew, James M., last known address, 71 Milnbank Road, Dundee  
 1908 Arnot, Patrick, Glamis Mains, Glamis

## Admitted

- 1902 Ballingall, P. L., Cransley, Invergowrie  
 1905 Ballingall, William O., Crookston, Meigle  
 1889 Batchelor, Francis M., Craigie, by Dundee (house, Kellyfield, by Dundee)  
 1890 BAXTER, Sir George W., Bart., Inver-eighty, Forfar  
 1919 Begg, G. A., 56 Provost Road, Dundee  
 1912 Bell, Miss H. A. C., Taycliff, Broughty Ferry  
 1912 Bell, Miss Robina M., Taycliff, Broughty-Ferry  
 1894 Bell, William, Balnuth, Dundee  
 1904 Bell, W. W., Auchtertyre, Newtyle  
 1908 Bishop, William B., Fletcherfield, Kirriemuir  
 1910 Bisset, James H., Blairfield, Dundee  
 1921 Black, Charles, Manager, Baldovan Home Farm, by Dundee  
 1922 Brand, Robert, 141 Clepington Road, Dundee  
 1920 Brown, David Lyon, Overbow, Forfar  
 1899 Brown, Wm. Donaldson, Drumgley, Forfar  
 1911 Bruntton, J. N., 10 Airlie Terrace, Dundee  
 1882 Buttar, Thomas A., Corston, Coupar-Angus—Free Life Member  
 1901 Campbell, J. Douglas, Travetank, Barry  
 1921 Carmichael, James C., East Whitefield, Coupar-Angus  
 1915 Carnegie, John A., Secretary, Agricultural Association, Union Bank Buildings, Kirriemuir  
 1922 Christie, James, Washingdales, Kincaldrum, by Forfar  
 1920 Clapperton, Robert, 15 Glenagnes Road, Dundee  
 1921 Clark, David, 7 Coldside Road, Dundee  
 1896 Clunie, George K., Whitfield, Dundee  
 1905 Cochrane, Andrew, Craigisla, Alyth (Calton House, 30-40 Stevenson Street, Glasgow)  
 1922 Cowpar, John M'Kenzie, Over Migvie, Kirriemuir  
 1893 Cox, Edmund C., Marcus, by Forfar  
 1921 Cox, Maurice C., Bloomfield, Lochee, Dundee  
 1855 Croll, John, Craignuach, Broughty-Ferry  
 1923 Crooks, E. E., Dundurn, Monifieth (Royal Exchange Assurance, 80 Meadowside, Dundee)  
 1908 Dalgety, A. B., Ca'dhame, by Forfar  
 1922 Davidson, Robert, Pittempton, Downfield, Dundee  
 1887 Don, H. G., c/o Don Bros., Buist, & Co., Ltd., Dundee  
 1919 Donald, Alexander, Rosedene, Station Road, Barry  
 1923 Drummond, Rear-Admiral I. E., Eskhill, Kirriemuir  
 1916 Drysdale, R. Douglas, Haughs of Gossans, Forfar  
 1921 Duff, Robert, Agricultural Merchant, "Craignordie," Broughty-Ferry, W.  
 1883 Duncan, John, Muirhouses, Kirriemuir  
 1879 Duncan, Patrick G., Hillhead, Kirriemuir  
 1881 Duncan, W. G., Balkemback, Tealing, Dundee  
 1895 Durkie, Alexander F., Mill of Mains, Dundee  
 1913 Dykes, J. Alston, 4 Farnighton Street, Dundee  
 1921 Ewart, William, Sandysford, Kirriemuir  
 1914 Fairlie, John M., Kirkton, Monikie, near Dundee  
 1912 Fenton, David, Gask, Coupar-Angus

## Admitted

- 1921 Findlay, James, New Miln, Craigessie, by Forfar  
 1919 Fleming, James, Barns of Claverhouse, Dundee  
 1897 Forbes, Robert, Estate Office, Newtyle  
 1921 Ford, John (Ford & Paterson), 844 & 846 Brook Street, Broughty-Ferry  
 1922 Fyfe, David, New City Hall Buildings, Shore Terrace, Dundee  
 1920 Gair, Patrick C., Newton, Newtyle, Forfar  
 1919 Gair, Thomas, Magdalene's Kirkton, Downfield, Dundee  
 1867 Gardyne, Colonel C. G., Finavon, Forfar  
 1919 Glen, Allan, Murroes Farm, Dundee  
 1905 Gourlay, Charles G., *last known address*, The Croft, Longforgan  
 1890 Gourlay, Henry, *last known address*, Balingry House, Dundee  
 1915 Grant, David, Upper Tulloes, Forfar  
 1901 Grant, George Roger, Auchnacree, Brechin  
 1920 Grant, James, East Ingleston, Forfar  
 1919 Grant, James, Kingennie House, Dundee  
 1890 Grant, John, Craig Mills, Dundee  
 1913 Gray, Robert, Carlingwell, Airlie, Kirriemuir  
 1920 Grewar, David G., Mill of Camno, Meikle  
 1921 Hair, Thomas W., Hillhead, Kirriemuir  
 1906 Hamilton, John, Dronie, Dundee  
 1921 Hood, James S., "Lynwood," 1 Camperdown Road, Downfield, Dundee  
 1888 Hunter, William, Beech Tower, Broughty-Ferry, Dundee  
 1921 Inglis, T. M., M.R.C.V.S., Ingleside, Forfar  
 1918 Ireland, Miss E. Lindsay, Balmirner, Arbroath  
 1899 Johnston, David, Solicitor, 34 Reform Street, Dundee  
 1923 Johnston, Harry, 8 King Street, Dundee  
 1919 Kerr, Alexander, Balfield Farm, Lochee  
 1890 Kidd, David, West Ardler, Coupar-Angus  
 1920 Laird, James, Moatinill, Tealing, by Dundee  
 1893 Laird, W. P., 20 High Street, Dundee  
 1906 Langlands, James H., 31 Murraygate, Dundee  
 1920 Lindsay, D., Cairnleith, Kirriemuir  
 1920 Lindsay, T., Acreavie, Kirriemuir  
 1920 Lindsay, William, Ballintore, Kirriemuir  
 1920 Lyburn, John, Burnmouth, Newtyle  
 1921 Lyon, Charles, High Street, Kirriemuir  
 1921 MacDiarmid, Finlay, Balcavies, Forfar  
 1919 MacFarlane, Patrick, Millhole, Newtyle  
 1919 MacFarlane, Peter, Aven Bank, Taylor Street, Forfar  
 1923 M'Intyre, Peter John, C.A., 30 Meadowside, Dundee  
 1890 M'Kay, Alexander, Mains of Auchterhouse, Dundee  
 1920 M'Lachlan, Hugh P., Mains, Dundee  
 1905 M'Laren, John, jun., Balgillo, Tannadice, Forfar  
 1919 M'Phail, Duncan, Muirhouses of Airlie, Kirriemuir  
 1895 Martin, James, Eddelstone, 286 Blackness Road, Dundee  
 1921 Mason, Macfarlane, Colonel David, C.M.G., C.B.E., T.D., Turin, Forfarshire  
 1894 Maxwell, David, Ballindarg, Forfar  
 1885 Menzies, W. D. Graham, of Hallyburton, Coupar-Angus  
 1909 Miller, James, Balcalk, Dundee  
 1923 Miller, Edward, Farm Manager, North Haplis, Inverarity

## Admitted

- 1894 Mitchell, James, Nether Migvie, Kirriemuir  
 1920 Mitchell, Walter A., Balbeuchby, by Dundee  
 1891 Mitchell, William, Unthank, Longforgan  
 1900 Morgan, Andrew, Estates Office, Glamis  
 1920 Morrison, J. B., Airlie Estate Office, Oortachy, Kirriemuir  
 1914 Motion, John, Keilor Farm, Coupar-Angus  
 1921 Murdie, John, jun., Baggerton Cottage, Forfar  
 1878 Murray, John, Balruddery, Dundee  
 1919 Murray, John E., Binus, Invergowrie, Dundee  
 1920 Murray, Joseph, N.D.A., N.D.D., Balruddery Farm, Invergowrie  
 1891 Murray, Joseph, Dryburgh, Lochee, Dundee  
 1920 Murray, William, Balruddery Farm, Invergowrie  
 1887 Myles, Robert, Barbra Bank, Kirriemuir  
 1921 Nicholl, Alex. Fyfe, North Mains Farm, Forfar  
 1900 Nicol, A. P., *last known address*, Ochterlony, Guthrie  
 1920 Nicol, William, Farm Manager, Hilton Balmuir, by Dundee  
 1921 Nicoll, Alex., Mill of Brighty, by Dundee  
 1891 Nicoll, William, Carsebank, Forfar  
 1920 Nicoll, William, jun., Driminie, Rescobie, by Forfar  
 1920 Nicoll, William S., Baldardo, Forfar  
 1920 Ogilvie, David Douglas, Gray House, Invergowrie, Dundee  
 1907 Ogilvie, Captain George H., M.C., c/o J. & J. Ogilvie, 13 Albert Square, Dundee  
 1893 Ogilvie, James S., Gray House, Invergowrie  
 1906 Ogilvie, Sir Herbert K., of Inverquhar, Bart., Baldovan House, Dundee  
 1904 Ogilvy, William, Lisdin, Kirriemuir  
 1898 Ovenstone, Charles Barrie, Duntrune, Dundee  
 1899 Panton, William S., 30 Albany Terrace, Dundee  
 1893 Paton, William B., 19 Springfield, Dundee  
 1890 Pattullo, David, Pitcur, Coupar-Angus  
 1891 Pattullo, John, Barnhill, Broughty-Ferry  
 1922 Pullar, Robert, 6 Osborne Place, Dundee  
 1898 Ralston, Claude L., Glamis  
 1893 Ralston, Gavin, Glamis House, Glamis  
 1919 Ramsay, James, Station Road, Invergowrie, Dundee  
 1913 Ratray, Richard, Parkconan, Arbroath  
 1920 Ratray, William, West Bog, Kirriemuir  
 1915 Reid, David, St Margaret's, Letham, Forfarshire  
 1911 Reid, David Murdoch, M.R.C.V.S., of North Pourie, by Dundee  
 1905 Reid, James C., Kilmundie, Glamis  
 1919 Reid, Tom, Wellgate, Dundee  
 1897 Rennie, William, *last known address*, Petterden, Tealing, Dundee  
 1921 Robbie, Andrew, Nether Bow, Forfar  
 1914 Roberts, Henry, Nether Ballunie Farm, Coupar-Angus  
 1920 Robertson, Samuel, Newton of Baldovan, Downfield, by Dundee  
 1919 Robertson, William, 27 William Street, Dundee  
 1903 Rogers, John Y., Rose Mill, Dundee  
 1881 Rogers, William, Ph.D., Rose Mill, Dundee  
 1896 Rough, William, Longbank, Kirriemuir

## Admitted

- 1922 Scott, Andrew F., Westfield, Forfar  
 1890 Scott, George C., Beresmount House, Broughty-Ferry  
 1921 Seaton, John C., Birkenbush, Forfar  
 1883 Shield, J. T., Taymouth Place, Broughty-Ferry  
 1895 Sim, John R., Mundamall, Newtyle  
 1905 Simpson, James, Newmill, Dunnichen, Forfar  
 1921 Simpson, James (Simpson's Rubber Depot), 44 High Street, Dundee  
 1920 Smith, A. T., Crosston, Dunnichen, Forfar  
 1908 Smith, George K., J.P., Ballomill, Dundee  
 1921 Smith, P. K. M., Mains of Fowls, Invergowrie  
 1919 Smith, Sydney, Ardgath, Lundie, Dundee  
 1920 Smith, Thomas, Dod, Monikie  
 1923 Souter, John, Whitehillocks, Kirriemuir  
 1920 Spalding, Silvester, Bankhead, Monikie  
 1890 Spreull, Andrew, V.S., 53 Magdalen Green, Dundee  
 1921 Spreull, Andrew, jun., V.S., 78 Ward Road, Dundee  
 1896 Steele, Thomas, Foulis Easter, Dundee  
 1919 Stevenson, David, 49 Pitkerro Road, Dundee  
 1894 Stewart, John F., Noraphank, Forfar  
 1915 Stewart, William, Dean Bank House, Glamis  
 1908 STRATHMORE, Earl of, Glamis Castle, Glamis  
 1920 Sword, George, 19 Claghorn Street, Dundee  
 1920 Taylor, John, Middle Brighty, Murroes, by Dundee  
 1923 Tombazis, J. A., The Cottage, Craigie, Dundee (Royal Exchange Assurance, 30 Meadowside, Dundee)  
 1903 Thoms, William L., Benvie, Dundee  
 1893 Thomson, David Couper, 'Courier' Office, Dundee  
 1922 Thomson, Robert, Shielhill, Kirriemuir  
 1922 Thomson, Robert Lindsay, Ancrum Cottage, Loches  
 1920 Tosh, George, Camperdown Mains, by Dundee  
 1921 Walker, Alexander, Quilkoe, Forfar  
 1921 Walker, David, Barnsdale, Forfar  
 1920 Walker, William G., Rawes, Longforgan, Dundee  
 1902 Warden, James L., Easter Meathie, Forfar  
 1899 Waterston, David, Estates Office, Glamis  
 1915 Watson, H., 6 Hyndford Street, Dundee  
 1880 Watson, William, Downleken Farm, Dundee  
 1920 Webster, John, Meadows, Forfar  
 1923 Whamond, Frank M., Angus Mills, Kirriemuir  
 1923 Whamond, John, Angus Mills, Kirriemuir  
 1891 White, J. Martin, of Balruddery, Dundee  
 1920 Whitton, Patrick, Coustar, Newtyle  
 1899 Whyte, Alexander, Easter Deneon, Glamis  
 1884 Whyte, Archibald, Inverquharity, Kirriemuir  
 1890 Whyte, James, Upper Hayston, Glamis  
 1921 Whyte, James L., Hayston, Glamis  
 1921 Whyte, Patrick, Hatton of Bessie, Glamis  
 1898 Whyte, William, Spott, Kirriemuir  
 1881 Wilkie, James, Solicitor, Kirriemuir  
 1921 Wilson, Guthrie B., Ashley Grove, Broughty-Ferry  
 1878 Wilson, T. Mackay, Solicitor, Dean

## Admitted

- 1909 Winter, Edgar, Cortachy Post Office, Kirriemuir  
 1895 Wyllie, David, Ferndene, Kirriemuir  
 1897 Wyllie, William, Drumolzie, Kirriemuir  
 1919 Young, James L., 19 High Street, Dundee  
 1908 Young, John B., Berryhill, Fowls Easter, Dundee

## KINROSS.

- 1922 Anderson, F., Abbotshall, Milnathort  
 1861 Anderson, Robert H., Tillyrie Cottage, Milnathort  
 1911 Archibald, A. E., Arlary, Milnathort  
 1898 Barclay, John, Pittendreich, Kinross  
 1911 Baxter, John, Myrtle Bank, Fossoway  
 1918 Black, James, of Tillywhally, Milnathort  
 1910 Blackwood, Adam, Baleave, Kinross  
 1910 Braid, Alex., Gairneybridge, Kinross  
 1919 Braid, John, Blacksith, Gairneybridge, Kinross  
 1920 Brown, William, The British Linen Bank, Kinross  
 1919 Bryce, David, jun., Carsegour, Kinross  
 1905 Calder, James C., Ledlanet, Milnathort  
 1911 Clark, James, Gospetry, Milnathort  
 1896 Dawson, James A. Ramage, of Balado, Kinross  
 1912 Dougall, William, Mawhill Farm, Kinross  
 1911 Downie, Alex. M., Avenue Road, Kinross  
 1907 Dryburgh, D., Bannety, Milnathort  
 1902 Falconer, William K., Solicitor, Kinross  
 1919 Ferguson, William J., Burleigh, Milnathort  
 1919 Fleming, John, Nivingston, Kinross  
 1884 Flockhart, William, of Annacrolch, Kinross  
 1911 Fotheringham, David, Hilton of Burleigh, Milnathort  
 1907 Gifford, Adam, Flockhouse, Blair Adam  
 1919 Greig, Thomas Stalker, of Harselaw, Fossoway  
 1922 Hamilton, James D., Blairnathort, Milnathort  
 1919 Henderson, Alexander, Cavelstone, Kinross  
 1919 Henderson, John, Findatie, Kinross  
 1922 Henderson, William, Tulliebole, Fossoway, Kinross  
 1912 Johnstone, John Maxwell, Estate Office, Kinross  
 1907 Kemp, William, Cross Well, Kinross  
 1905 Lambie, George, Waulkmill, Milnathort  
 1919 Leslie, Charles, Newlands, Milnathort  
 1920 M'Adam, William, Athronhall, Milnathort  
 1919 M'Ara, John, Craigwells, Kinross  
 1919 Macdonald, Duncan, Whorlawayhill, Kinross  
 1920 MacDonald, James, Shanwell Farm, by Milnathort  
 1911 M'Donald, John, Rose Mount, Kinross  
 1911 M'Farlane, Bartholomew, Cockairnie, Kinross  
 1911 M'Farlane, William, Cockairnie, Kinross  
 1921 M'Kechnie, Hugh, Wood of Coldrain, Kinross  
 1911 M'Menamy, John Joseph, Parkhouse, Kinrosswood  
 1918 M'Rosy, Alexander, Cuthill Towers,

Admitted

- 1899 Meiklem, Robert, Lochran, Blairadam  
 1919 Meiklem, Robert, jun., Lochran Farm, Blairadam.  
 1878 Mitchell, James, Ardallie, Fossoway  
 1912 MONTGOMERY, Sir Basil Graham, of Stanhope, Bart., Kinross House, Kinross  
 1883 Montgomery, H. James, of Hattonburn, Milnathort  
 1905 Muirhead, Thomas, Hatchbank, Fossoway  
 1919 Nicol, George, East Gellybank, Kinross  
 1915 Page, David, Peatknowne Works, Milnathort  
 1911 Paton, J. Herbert, of Lethangie, Kinross  
 1904 Reid, Robert M., Tillyrie, Milnathort  
 1919 Shiell, Robert, Sunnyside Farm, Blairadam, Kinross-shire  
 1890 Simpson, James, of Mawcarse, Milnathort  
 1911 Sloan, William, Goudierannet, Kinross  
 1905 Smith, James, Banker, Kinross  
 1911 Stewart, Hugh, jun., Craigowmill, Milnathort  
 1920 Syme, C. C., Seggie, Milnathort  
 1873 Terris, J., Dullomuir, Blairadam  
 1922 Thomson, A. B., South Street, Milnathort  
 1919 Tod, Thomas M., of West Brackley, Kinross  
 1884 Tod, William, of East Brackley, Kinross  
 1912 Welsh, David, Orwell Farm, Kinross  
 1921 Williamson, James, East Lochran, Blairadam  
 1911 Wilson, J., Bracklemoss, Kinross  
 1919 Wilson, Robert, West Bowhouse, Leslie, Kinross

PERTH

(PERTH SHOW DIVISION).

- 1919 Alexander, James, Fairygreen, Kinrossie, Perth  
 1906 Allan, John, Dalcrue, Almondbank, Perth  
 1913 Allan, John D., Culthill Implement Works, Murthly  
 1904 Allan, William, Croft House, Craigie, Perth  
 1918 Allan, William A., Kinnon Park, Methven, Perth  
 1930 Anderson, George F., Marriness, Perth  
 1920 Anderson, James, Ballinloan, Strathbraan, Dunkeld  
 1920 Anderson, James Murray, Balbrogie, Coupar-Angus  
 1922 Anderson, James, jun., Ballinloan, Strathbraan, Dunkeld  
 1878 Anderson, Peter, Rose Cottage, Fortingal  
 1919 Anderson, Robert, Station Road, Coupar-Angus  
 1903†ATHOLL, The Duke of, K.T., C.B., M.V.O., D.S.O., Blair Castle, Blair Atholl  
 1890 Balfour, Francis, Kindrogan, Blairgowrie  
 1902 Ballingall, Simpson, Ardveich, Lochearnhead  
 1898 Baxter, William, Tophead, Stanley  
 1899 Bell, George, South Inchmichael, Errol  
 1904 Bell, H. J., 18 Charlotte Street, Perth  
 1887 Bell, James H., of Rossie, Forgan-denny

Admitted

- 1913 Bell, Robert Duff, Craigenvar, Scone, Perth  
 1922 Bendall, R. W., Stanley Hotel, Stanley  
 1902 Bett, James Esson, Leadkitty, Dunning  
 1884 Bett, Thomas, Dalnalin, Aberfeldy  
 1899 Beveridge, James, Fingask, Errol  
 1908 Bishop, James, Station Hotel, Perth  
 1889 Blyth, James, Ruthven House, Almondbank, Perth  
 1921 Bonella, Andrew, Bonhard, Scone  
 1905 Bonella, John, Ardgarth, Redgorton, Perth  
 1899 Boyd, Charles, Solicitor and Banker, Coupar-Angus  
 1921 Brand, Alexander, Milton Fortaviot, Forgan-denny  
 1921 Brown, David Robertson, The Hotel, Abernethy  
 1913 Brown, George, Cloag, Methven  
 1891 Brown, John, M.R.C.V.S., D.V.S.W., F.H.A.S., 55 York Place, Perth—Free Life Member  
 1871 Brown, Peter, Stanley  
 1915 Brown, Peter, last known address, Manager, Wester Cluny, Pitlochry  
 1919 Bruce, John, Muirhall Terrace, Perth  
 1922 Bruce, John, jun., 11 Muirhall Terrace, Perth  
 1919 Bruce, Patrick, Jordanstone, Meigle  
 1910 Bruce, W. P., Drumkilbo Main, Meigle  
 1912 Bruges, William, Leighwood, Dunkeld  
 1919 Bryce, Robert D., Drunzie, Glenfarg  
 1907 Bryden, James G., New Mains, Scone, Perth  
 1920 Buchan, John Anderson, 54/56 Victoria Street, Perth  
 1904 Bulk, P. R., 75 George Street, Perth  
 1902 Bull, Arthur G., General Accident, Fire, & Life Assurance Corporation, Ltd., General Buildings, Perth  
 1907 Bullough, Ian, Meggernie Castle, Aberfeldy  
 1912 Burnett, David B., Wester Cleavage, Dunning  
 1913 Burnfield, John, Over Benchill, Stanley  
 1921 Buttar, David B., Auld of Clunie, Blairgowrie  
 1921 Buttar, Douglas, South Friarton, Balbriggie  
 1910 Buttar, Ralph S., Strathview, Coupar-Angus  
 1920 Buttar, Alex., Cottarton, Stanley  
 1895 Buttar, Archibald Edward, Pitlochry  
 1908 Buttar, Charles A. J., of Faskally, Clunimore, Pitlochry  
 1920 Calder, John G., 16 Glasgow Road, Perth  
 1904 Calder, John J., Ardargie, Forgan-denny  
 1901 Callander, William, Ruthvenfield House, Almondbank, Perth  
 1923 Cameron, Alexander, Kinnaid, Forgan-denny  
 1888 Cameron, Donald, Roro More, Aberfeldy  
 1896 Cameron, John, 3 Comely Bank, Perth  
 1921 Cameron, William, Haugh of Tullymet, Ballinluig  
 1892 Campbell, Alexander, Boreland, Fearnan, vid Aberfeldy  
 1921 Campbell, Donald, Slatich Farm, Glenlyon, Aberfeldy  
 1921 Campbell, Duncan, Balinloan, Glenlyon, Aberfeldy  
 1879 Campbell, Duncan, Balnacraig, Fortingal  
 1913 Campbell, Duncan, Turrerich, Amulree, Dunkeld

## Admitted

- 1896 Campbell, Dun., 7 Queen's Avenue, Perth  
 1912 Campbell, Hugh M., Dunsinnan Estate Office, Balbeggie, Perth  
 1921 Campbell, James, Balmacolly, Bankfoot  
 1896 Campbell, Peter, Karrowmore, Glenlyon, Aberfeldy  
 1921 Campbell, W. R., c/o Campbells, M'Lagan, & Co., Seedsmen, Perth  
 1901 Carmichael, James L., of Arthursstone, Meikle  
 1920 Chalmers, John, Little Tulliebelton, Bankfoot, Perth  
 1920 Chalmers, Peter, Ardonachie, Stanley  
 1888 Chapman, Alexander, Wester Buchanty, Glenalmond, Perth  
 1912 Chisholm, William, Eastfield, Murthly  
 1904 Clark, Archibald, Dalreoch, Amulree, Dunkeld  
 1912 Clark, George Aitken, *last known address*, of Straloch, Enochdu, Blairgowrie  
 1906 Clark, Thomas, Pitlandie Farm, Stanley  
 1923 Coates, David A., Solicitor, 10 Blackfriars Street, Perth  
 1915 Cochraue, Alexander, Mains of Craigs, Alyth  
 1896 Constable, Robert, Rosemount House, Blairgowrie  
 1890 Cox, Albert E., of Dungarhill, Dunkeld  
 1890 Cox, Alfred W., Glendoleck, Glencarse  
 1890 Cox, William Henry, of Snaigow, Murthly  
 1905 Orichton, Robert, Burrelton, Coupar-Angus  
 1911 Cunningham, Thomas, Little Findowie, Dunkeld  
 1907 Cunningham, William, Auchtenny, Forgandenny  
 1901 Davidson, James J. C., Cally, Bridge of Cally, Blairgowrie  
 1914 DEWAR, The Hon. John, Luncarty, Perth  
 1920 Dickie, Archie P., Whitehills, Abernethy, Inchture  
 1919 Dickie, James W., Loak Farm, Stanley  
 1896 Dickie, William B., of Whitehills, Inchture  
 1899 Doig, James, Haughend, Meikle  
 1894 Dougall, James, Knowhead, Guildtown, Perth  
 1911 Downe, Lord, Kinfauns Castle, Perth  
 1879 Dow, James, Tarsappie Cottage, Perth  
 1923 Drummond, Peter M., Cherrybank, Perth  
 1923 Duff, John, Balnattaylor, Ballinluig  
 1921 Duncan, Alex., Drummond Park, Methven  
 1919 Duncan, Cecil Gosman, Tomnagairn, Strathbraun, Dunkeld  
 1921 Dunn, Andrew, Rosefield, Balbeggie  
 1921 Dunn, John F., Cotterton Farm, Almondbank  
 1921 Dunn, Robert, Cotterton, Almondbank  
 1896 Dyes, William, 24 St John Street, Perth  
 1919 Ewing, John, North Kinkell, Auchterarder  
 1921 Ewing, Walter, West Buttergask, Coupar-Angus  
 1921 Fenton, David, Inglewood, Dunning  
 1894 Fenwick, James, Kirkhill, Redgorton, Perth  
 1921 Fenwick, James (Lindsay & Fenwick), Ironmongers, Perth  
 1904 Ferguson, Andrew Mitchell, Banker, Alyth

## Admitted

- 1905 Ferguson, William Scott, Bennathie, Coupar-Angus  
 1904 Fergusson, Alexander, Dalcapon, Ballinluig  
 1920 Fergusson, Lieut. Edmund J., R.N., of Baledmund, Pitlochry  
 1920 Fergusson, Peter, Sheirglas Farm, Blair Atholl  
 1921 Fernie, David, Lochside, Coupar-Angus  
 1920 Filshie, James, Pleasants, Coupar-Angus  
 1922 Forbes, Alexander, Balgonie Farm, Abernethy  
 1897 Forbes, James, Deanshaugh, Strathbraun, Dunkeld  
 1894 FORTREVOR, Lord, of Dupplin, Perth  
 1892 Fotheringham, Walter Steuart, of Fotheringham and Murthly  
 1912 Fraser, Alexander, 55/7 High Street, Perth  
 1897 Fraser, John, *last known address*, Glenfoot, Abernethy, Perthshire  
 1879 Fraser, John M., of Invermay, Forteviot  
 1904 Fraser, William Lovat, Craigclowan, Perth  
 1905 Fullarton, James, Redstone, Coupar-Angus  
 1910 Fulton, James, Knollhead, Kettins, Coupar-Angus  
 1900 Fyfe-Jameson, James F., Ruthven, Meikle  
 1921 Fyfe, Robert B., 35 Rose Crescent, Perth  
 1890 Gardiner, Thomas J., Banchory, Coupar-Angus  
 1912 Gay, William, Carey, Abernethy  
 1875 Gillespie, James J., Brier Bank, Glasgow Road, Perth  
 1911 Glen, William, Balgarvie, Scone  
 1896 Goodall, William, Stanley Farm, Stanley  
 1911 Gordon, John, M.A., B.Sc., 10 St Leonards Bank, Perth  
 1922 Gowans, John, Haugh of Kercock, Stanley  
 1896 Graham, Alexander, Hill, Errol  
 1881 Graham, A. G. Maxton, of Cultoquhey, Redgorton, Perth  
 1904 Grant, Alfred B., Friarton, St Martins, Perth  
 1921 Grant, H. Mitchell, F.S.I., Bengarth, Blairgowrie  
 1921 Grant, James, Graigengall, Almondbank  
 1899 Grant, W. J. Brewster, Thorn, Blairgowrie  
 1921 Grassick, A. D., Commercial Street, Blairgowrie  
 1880 Gray, George, Bowerswell, Perth  
 1894 Gray, Thomas, Ellbank Villa, Perth  
 1919 Gray, Thomas L., West Park, Auchterarder  
 1921 Grieve, Allan M., St Martin's Mill, Perth  
 1904 Grimond, John, Oakbank, Blairgowrie  
 1921 Guild, James J., Drumkilbo, Meikle  
 1921 Guild, William, Auchnacloich, Amulree, Dunkeld  
 1897 Guild, William, Laurel Villa, Bankfoot, Perthshire  
 1897 Guthrie, D. W., Jesmond, Bridge of Earn  
 1903 Haggart, James D., Eilean Riabhach, Aberfeldy  
 1920 Hair, James B., Mains of Aberdalgie, Perth  
 1890 Halkett, John Gilbert Hay, *last known address*, Balendoch, Meikle  
 1896 Halley, Robert, 50 Hay Street, Perth

## Admitted

- 1889 Hardie, David, Factor, Estates Office, Errol  
 1905 Harrison, Rev. John, The Rectory, Tay-bridge Drive, Aberfeldy  
 1905 Hart, James Maule, Nether Garvock, Dunning  
 1920 Hay, Charles, Easter Rhynd, Bridge of Earn  
 1904 Hay, James Drummond, of Glenearn, Bridge of Earn  
 1913 Hay, Stewart J., Mains of Culmalundie, Tibbermore, Perthshire  
 1890 Henderson, William, of Lawton, Coupar-Angus  
 1904 Hill, R. Wylie, of Balthayock, Perth  
 1919 Hinshelwood, Miss Mary L., Ballechie, Ballinluig  
 1897 Hogg, William H., Hallyburton Estate Office, Coupar-Angus  
 1894 Hollingworth, Thomas, New Mains, Inchture  
 1878 Home-Rigg, James, Earnvale, Bridge of Earn  
 1921 Hope, John, Drumharrow, Luncarty, Perth  
 1921 Hope, Thomas, Clashbenny, Glencarse, Perth  
 1919 Hopkinson, James A., Duncreive, Glenfarg  
 1919 Howie, Alexander, Mains of Murie, Errol  
 1919 Howison, A. W., of Lochbank, Blairgowrie  
 1913 Hunter, James Gardyne, of Horn, Errol  
 1911 Hunter, R. G., Newmains, Fingask, Errol  
 1904 Hunter, Wm. C. W.S., of Arngask, Glenfarg (15 Hill Street, Edinburgh)  
 1903 Inglis, Robert, Factor, Blair Atholl  
 1913 Irving, Edward, South Street, Burrelton, Perthshire  
 1921 Jackson, John, East Campsie, Glenalmond  
 1921 Jackson, William, Millhaugh, Methven  
 1884 Jameson, Martin, Fernhill, Perth  
 1920 Keay, James, Commercial Street, Blairgowrie  
 1904 Keir, David, Ladywell, Dunkeld  
 1904 Kidd, James, Mains of Errol, Errol  
 1904 Kilgour, James, Stewart Tower, Stanley  
 1921 King, Captain Hugh, Balmacneil, Ballinluig  
 1896 Kinloch, Charles Y., of Gourdie, Murthly  
 1920 KINNAIRD, Lord, Millhill, Inchture  
 1922 Kyd, John N., Pitcastle, Strathtay  
 1921 Lamond, David, 62 George Street, Coupar-Angus  
 1921 Lamont, Rev. Donald, The Manse, Blair Atholl  
 1904 Law, William, Windyedge, Perth  
 1920 Lawson, John W., Goddens, Errol  
 1920 Lawson, Peter Keir, Legertlaw, Coupar-Angus  
 1908 Leslie, Peter, Brighton, Ruthven, Meigle  
 1894 Leslie, Thomas, *last known address*, Kinloch Arms Hotel, Meigle  
 1919 Leslie, William, Bush, Balbeggie  
 1921 Liddell, Buckham William, W.S., Pitlochry  
 1908 Lindsay, Alexander, 34 King Edward Street, Perth  
 1904 Livingston, James A., Mains of Cargill, Meikleour  
 1920 Lornie, William S., M.R.C.V.S., 18 York Place, Perth  
 1913 Lumsden, Alexander M., Glenlyon House Farm, Fortingall, Aberfeldy  
 1899 Lumsden, Robert Oswald, Huntingtower, Perth

## Admitted

- 1918 Lunn, William Holdsworth, Atholl Palace, Pitlochry  
 1921 Lyburn, William, Kinnochtry, Coupar-Angus  
 1899 M'Beath, William, 2 Atholl Villa, Pitlochry  
 1915 M'Callum, James, Sauchie Farm, Dupplin, by Perth  
 1911 M'Callum, John, Mains of Struie, Forgandenny  
 1904 M'Cash, William F., Cornhill, Perth  
 1905 M'Cracken, J., Grange, Perth  
 1912 Macdiarmid, Hugh, Finnart, Rannoch Station  
 1919 M'Diarmid, Michael Grieve, Finnart, Rannoch Station  
 1896 Macdonald, Alexander, Meggernie Estate Office, Glenlyon, Aberfeldy  
 1899 Macdonald, A. J., Rossie Priory, Inchture  
 1913 Macdonald, David Donald, Atholl Arms Hotel, Blair Atholl  
 1887 Macdonald, Duncan, Inchadney, Aberfeldy  
 1919 Macdonald, James, Pitlowie, Glencarse, Perthshire  
 1912 Macdonald, James Allan, Uriar, Aberfeldy  
 1920 M'Donald, James Forbes, Welton, Blairgowrie  
 1914 Macdonald, James Henderson Stephens, 42 Tay Street, Perth  
 1920 Macdonald, James Mitchell, Milton of Drimmie, Blairgowrie  
 1921 Macdonald, John, Balboughty Home Farm, Perth  
 1904 Macdonald, John, Saucher, Collace, Perth  
 1871 Macdonald, William, *last known address*, "The Atholl," Pitlochry  
 1896 M'Dougall, Donald, Dall, Ardeonaig, Killin  
 1921 M'Dougall, John, Denmarkfield, Perth  
 1922 Macdowell, George Addison Deccan, Comrie Farm, Aberfeldy  
 1874 Macduff, Alexander, of Bonhard, Perth  
 1921 M'Farlane, John, Kinloch, Amulree, Glenquach, Perth  
 1901 M'Gilchrist, James, Home Farm, Auchterarder  
 1883 M'Gillewie, R., Broomhill, Pitlochry  
 1920 M'Glashan, James, Loanhead, Stanley  
 1920 M'Glashan, William, Blacksmith, Pitlochry  
 1921 M'Gregor, Atholl A., Carmichaels, Invergowrie  
 1921 M'Gregor, Robert, Kirkton of Mailer, Perth  
 1909 M'Gregor, Thomas, Millbank, Coupar-Angus  
 1904 M'Inroy, James, Baldinnes, Dunning  
 1919 M'Intosh, Henry James, Meikle Trochry, Dunkeld  
 1914 MacIntosh, Peter, Edradour Distillery, Coilaavoulin, Pitlochry  
 1894 M'Intosh, Thomas, Ardargie, Forgandenny  
 1908 M'Kearney, John, 21 Melville Street, Perth  
 1896 Mackinlay, James, *last known address*, Balnahanait, Glenlyon, Aberfeldy  
 1896 Mackinnon, John, Auctioneer, Blairgowrie  
 1905 M'Lagan, Robert F., 36 Caledonian Road, Perth  
 1921 M'Lagan, William, Balgour, Dunning  
 1896 M'Laggan, J. G., Lethendry Cottage, Glenalmond, Buchanty  
 1901 M'Laren, Hugh, *last known address*, Blackhill Villa, Aberfeldy



**Admitted**

- 1921 M'Lean, Hugh, Kellour, Methven  
 1919 M'Leish, Alexander, Balmacollm, Kinrossie, Perth  
 1909 M'Leish, John, Wester Cairnie, Fort-eviot  
 1892 M'Naughton, Alexander, Manufacturer, Pitlochry  
 1896 MacNaughton, James, Edrogoll, Aberfeldy  
 1896 MacNaughton, Peter, Remony, Kenmore  
 1922 Main, Benjamin, Agricultural Merchant, 1 King Edward Street, Perth  
 1896 MANSFIELD, The Earl of, Scone Palace, Perth  
 1901 Marshall, James M'L., of Bleaton Hallet, Blairgowrie  
 1920 Marshall, Thomas B., County Buildings, Perth  
 1896 Martin, H., Flowerdale, Kinrossie, Perth  
 1919 Martin, Hugh P., Balgove, Coupar-Angus  
 1900 Martin, James, Woodside, Coupar-Angus  
 1920 Mathers, Archibald C. (H. W. Mathers & Sons), Glasgow Road, Perth  
 1884 Matthew, John M., of Auchmague, Perth  
 1904 Meldrum, Andrew M., Solicitor, Pitlochry  
 1921 Mellie, John, Shian Bank, Scone  
 1920 Menzies, James, Manager, Home Farm, Faskally, Pitlochry  
 1909 Menzies, Peter, Bogtonlea, Dunning  
 1898 Menzies, Robert, Greenfield, Methven  
 1898 Menzies, Robert, Station Hotel, Aberfeldy  
 1904 Michie, Thomas, Clumskea, Enochduh, Blairgowrie  
 1885 Middleton, Major W. F., Baldarroch, Murthly  
 1898 Miller, James Robert, Pitroddie, Errol  
 1900 Miller, George A., W.S., Knowhead, Perth  
 1896 Miller, William, Allanbank, Cherrybank, Perth  
 1919 Miller, William S., of Balmanno, Bridge of Earn  
 1920 Mitchell, David, Royal Bank Buildings, Blairgowrie  
 1877 Mitchell, Hugh, Banker, Dundarach, Pitlochry  
 1928 Mitchell, John, Easter Bleaton, Blairgowrie  
 1920 Molison, Alfred Speid, Lochton, Inchture  
 1889 MONCREIFF, Sir Robt. D., of Moncreiffe, Bart., Bridge of Earn  
 1920 Moncreiff, Robert, Tofthill, Glencarse  
 1920 Moncreiff, William, Tofthill, Glencarse  
 1908 MORAY, Earl of, Kinfauns Castle, Perth  
 1922 Morgan, James, Oakbank Road, Cherrybank, Perth  
 1921 Morgan, James, Savings Bank, Aberfeldy  
 1898 Morgan, William F., Ardgath, Glencarse  
 1921 Morrison, Ian K., Melginch, Balbeggie  
 1896 Morrison, John, Melginch, Balbeggie  
 1921 Morris, James, Masterfield, Dunning  
 1920 Morris, Robert, Potato Merchant, Woodside, Coupar-Angus  
 1921 Morrison, Hugh, Blackcraig, Scone  
 1896 Morton, David, North Muirton, Perth  
 1921 Morton, William R. M'L., Pitversie, Abernethy  
 1904 Mossion, Thomas, Potato Merchant, Coupar-Angus  
 1921 Muir, Robert, Lochend, Forgandenny  
 1908 Munro, Charles J. D., Solicitor, Moness, Aberfeldy

**Admitted**

- 1909 Munro, Henry, Myreside, Glasgow Road, Perth  
 1908 Munro, William, Bank Agent, Aberfeldy  
 1896 MURRAY, Hon. Alexander David, of Pitfour Castle, Glencarse, Perth  
 1912 Murray, Archibald P., Logie House, Methven  
 1871 Murray, C. A., Taymount, Stanley  
 1896 Murray, David, Balgersho Works, Coupar-Angus  
 1928 Murray, Dulcibella M. L., Logie House, Methven  
 1920 Murray, Peter S., Balgersho Engineering Works, Coupar-Angus  
 1883 Murray, William, Pitlochry  
 1920 Myles, Thomas, Montague, Scone  
 1905 Nairn, William, M.R.C.V.S., Erichbank, Blairgowrie  
 1912 Nasmyth, Norman J., of Glenfarg House, Abernethy, Perth  
 1922 Nicoll, Harold, Nether Logie, Meigle  
 1896 Nimmo, Robert, 11 Kincarrathie Crescent, Perth  
 1884 Nisbet, T. M., Sunnybrae, Pitlochry  
 1912 Niven, William Sharp, The Loan, Errol  
 1904 Norie-Miller, Francis, of Clevee, Perth  
 1920 Norwell, John K., 47 High Street, Perth  
 1905 Ogilvy, John C., Parkhead, Blairgowrie  
 1905 Ogilvy, John Wedderburn, yr. of Ruthven, Meigle  
 1913 Orchison, C. M., Flawcraig, Errol  
 1922 Osborne, David, Hill of Ruthven, Perth  
 1920 Paterson, William, Kirkton of Collace, Kinrossie  
 1892 Paterson, Charles J. G., of Castle Huntly, Longforgan  
 1922 Paton, James, Obney, Bankfoot  
 1900 Pattullo, H. M., Langlogie, Meigle  
 1904 Pattullo, Robert C., Bankhead, Alyth  
 1898 Pattullo, William, Fullarton, Meigle  
 1901 Pearson, James C., Auchlatt, Pitlochry  
 1921 Pearson, Robert, Bambair, Almond-bank  
 1896 Peddie, David, *last known address*, Tullylumb, Perth  
 1920 Phillips, Duncan, Butcher, Stanley  
 1921 Philp, James, Duncrub, Dunning  
 1891 Pitcaithly, George, West Dron, Bridge of Earn  
 1877 Pople, George, Newhouse, Perth  
 1919 Powrie, Archibald, Potato Merchant, 19 Hospital Street, Perth  
 1921 Prain, Alexander S., New Mains of Fingask, Errol  
 1900 Prain, John, Invergowrie  
 1921 Primrose, John Ure, Knowhead, Kinfauns, by Perth  
 1909 Provan, James, Wallacetown, Bridge of Earn  
 1922 Provan, John, Wallacetown, Bridge of Earn  
 1922 Provan, William, Wallacetown, Bridge of Earn  
 1896 Pullar, Albert E., Durn, Perth  
 1897 Pullar, Charles, Muirhall, Perth  
 1921 Pullar, Robert Morrison, Eastfield, Bridge of Earn  
 1884 Rae, W. A., Douglasfield, Murthly  
 1918 Rattray, Colonel P. R. Burn Clerk, Craig-hall-Rattray, Blairgowrie  
 1921 Reid, Dan, Errol Arms House, Errol  
 1919 Reid, James, Grafton House, Auchterarder  
 1897 Reid, James, Pictatonhill, Perth  
 1920 Reid, James, jun., Whinniemuir Farm, Perth  
 1921 Reid, William, Middle Gourdle, Murthly  
 1901 Rennie, Jos., River View, Errol

## Admitted

- 1919 Banton, John T., Branklyn, Perth  
 1910 Richmond, James, of Kincairney, Murthly  
 1912 Richmond, T. Gordon, Meigle House, Meigle  
 1920 Ritchie, Alexander, New Inn, Stanley  
 1920 Ritchie, Alex. T., Littleton, Inchture  
 1904 Ritchie, James, The Neuk, Rosemount, Blairgowrie  
 1921 Ritchie, William, Bertha Park, Perth  
 1900 Robertson, Charles, Trochrie, Strathbraan, Dunkeld  
 1893 Robertson, Daniel, Rosemount, Tullylumb Terrace, Perth  
 1920 Robertson, Duncan, Rashielea, Stanley  
 1910 Robertson, Ernest F., Trinafour, Auchleeks, R.S.O.  
 1899 Robertson, George, Innernytle, Stanley  
 1914 Robertson, James, Balanloan, Blair Atholl  
 1921 Robertson, James, Moneydierodger, Perth  
 1920 Robertson, James, Westwood, Stanley  
 1876 Robertson, J. S., of Edradynate, Strath-tay  
 1920 Robertson, Robert, Auctioneer and Meal Miller, Pitlochry  
 1901 Robertson, Theo., Auctioneer, Perth  
 1883 Robertson, William, Potato Merchant, 11 St Paul's Square, Perth  
 1918 Robertson, William, Forehill, Murthly  
 1920 Robertson, William, jun., Spoutwells, Scone  
 1920 Rodger, David, Hillocks of Clunie, Blairgowrie  
 1919 Rodger, James, Forneth, Blairgowrie  
 1921 ROLLO, The Hon. Bernard, Keltie Castle, Dunning  
 1883 Rollo, James A., County Club, Perth  
 1921 Rose, George R., Ballechin, Ballinluig  
 1912 Rose, William, Haugh of Ballechin, Ballinluig (189 Main Street, Cambuslang)  
 1897 Roy, William, 1 Balhousie Bank, Perth  
 1906 Salmon, Charles S., Lawmuir, Methven  
 1919 Sangster, William H., Wester Cultmalundie, Perth  
 1911 Scott, Charles Howard, Essendy House, Blairgowrie  
 1899 Scott, D. W., Gourdie, Murthly  
 1889 Scott, James, *last known address*, Inveralmond House, Perth  
 1879 Scott, John, Lawers View, Aberfeldy  
 1906 Scott, John, Road Surveyor, Shielhill, Stanley  
 1912 Scott, Thomson, Den Cottage, Kirkwynd, Abernethy  
 1894 Scott, William, Tibbermallo Farm, Methven  
 1919 Scott, William Wharrie, East Fordun, Auchterarder  
 1904 Scrimgeour, William, Sunnylea, Gray Street, Craigie, Perth  
 1922 Shanks, T. B., Mains of Kinmonth, Bridge-of-Earn  
 1919 Sharp, Andrew, Clatheyms, Tibbermore, Perth  
 1920 Shaw, John, Newton Gray, Inchture  
 1914 Shield, George R., Estate Office, Dunalaistair  
 1900 Shorthouse, Alexander, North Ardittie, Methven  
 1919 Sidey, James, Hallhole, Coupar-Angus (and of Buenos Aires)  
 1896 Simpson, James, City Mills, Perth  
 1914 Simpson, John J., Estate Office, Dupplin Castle, Perth  
 1889 Sinclair, John, Pothill, Auchterarder

## Admitted

- 1914 Smith, Alexander, Cranley, Meikleour, Perth  
 1920 Smith, George T., Aikenhead, Blairgowrie  
 1921 Smith, James, Letham, Stanley  
 1919 Smith, J. B., Blairgowrie  
 1918 Smith, James Parker, Eastmill, Auchterarder  
 1896 Smith, John F., Strathearn, Bridge of Earn  
 1920 Smith, John W., Newmill, Stanley  
 1922 Smith, Joseph, Chapel Bank, Dunning  
 1920 Smith, P. M., Bradystone, Murthly  
 1921 Smith, Richard, Easter Cleavage, Dunning  
 1906 Smith, Robert, Burnside Farm, Stanley  
 1876 Smythe, Colonel David M., of Methven, Perth  
 1881 Speid, James, Forneth, Dunkeld  
 1922 Stark, H. M., Balhepburn, Bridge of Earn  
 1896 Stark, James, Coates of Fingask, Perth  
 1912 Stead, Louis N. Trotter, Ballindean, Inchture  
 1890 Stead, W. F., Ballindean House, Inchture  
 1919 Steele, John, Auchnafree, Amulree, Dunkeld  
 1896 Stephenson, John B., Hillwood, Glenfarg  
 1893 Stewart, Alexander Blair, Balnakeilly, Pitlochry  
 1905 Stewart, Archibald A., Glenfernate, Blairgowrie  
 1898 Stewart, Duncan, Mains of Balyoukan, Pitlochry  
 1911 Stewart, James, Clachan of Struan, Calvine  
 1900 Stewart, James, Friarton, Perth  
 1904 Stewart, James, Mains of Pittendreich, Meikleour  
 1921 SREWART, Sir John, Bart., D.L., J.P., F.R.G.S., Fingask Castle, Errol, Perthshire  
 1894 Stewart, William Middleton, *last known address*, Tullypowrie, Strathray  
 1913 Stirtton, William, Gellybanks, Stanley  
 1909 Strang, Gavin, Moneydie, Redgorton  
 1896 Stratton, David, Stormont House, Logiealmond, Perth  
 1901 Stuart, Major John, The Lodge, Strathyre  
 1907 Sym, Jas. Pitcairn, jun., West Kinnochtry, Coupar-Angus  
 1919 Tasker, Alex. N., East Cammo, Meigle  
 1890 Tasker, George, Arnbog, Meigle  
 1899 Tasker, William, Rock Villa, Meigle  
 1896 Thom, James, Cambusmichael, Guildtown, Perth  
 1920 Thom, John, c/o Messrs John Wallace & Sons, Ltd., Perth  
 1918 Thomas, James, Bowhouse, Balbeggie, Perth  
 1905 Thomson, Alexander, Springfield, Coupar-Angus  
 1901 Thomson, James Meikle, Viewbank, Coupar-Angus  
 1919 Thomson, Thomas, Fingask, Bridge of Earn  
 1911 Thomson, William, Sunnybank, 189 Glasgow Road, Perth  
 1906 Thow, John, Rossie Farm, Dunning  
 1896 Todd, William D., Nethermains, Mad-derty  
 1921 Tosh, Alfred, Lochton, Inchture  
 1919 Turnbull, Mark, Balmacron, Meigle  
 1920 Walker, David, Mains of Inchture, Inchture  
 1919 Wallace, James Alexander, Duncrevie, Glenfarg

*List of Members.*

## Admitted

- 1922 Walter, Captain C. H., Chesthill, by  
Aberfeldy  
1922 Walter, Mrs C. H., Chesthill, by Aber-  
feldy  
1900 Warnock, Archibald, Gateside, Melkle-  
our  
1908 Waterson, John, Craig House, Stanley  
1901 Watson, William, La Quinta, Scone  
1913 Watt, John, Cronan, Coupar-Angus  
1881 Wedderspoon, Thomas, Castleton,  
Meigle  
1904 White, Charles D., Guardswell, Inch-  
ture  
1892 Whitson, W., Isla Park, Coupar-  
Angus  
1912 Williamson, James, Wester Cardean  
Farm House, Meigle  
1921 Wilson, Andrew, Blairhall, Perth

## Admitted

- 1919 Wilson, James, New Ardonachie,  
Stanley  
1899 Wilson, James G., Kinfauns Estates  
Office, Rockdale, Perth  
1921 Wood, John A., Drummond Cottage,  
Stanley  
1913 Wright, J. Moncrieff, of Kinmonth,  
Bridge of Earn  
1913 Wyllie, J. W., 4 Kinnoul Street,  
Perth  
1896 Wyllie, Scott, Milton of Luncarty, Red-  
gorton, Perth  
1919 Wyllie, William, Pittendynie, Red-  
gorton, Perth  
1894 Wynd, David, Newbigging, Errol  
1921 Young, Hugh, East Busby, Methven  
1921 Young, John, Newbiggin, Methven  
1923 Young, John, Aldie, Methven

NUMBER OF MEMBERS, 1815.

### 3.—STIRLING DIVISION.

#### EMBRACING THE

#### COUNTIES OF CLACKMANNAN, DUMBARTON, PERTH (STIRLING SHOW DIVISION), AND STIRLING.

##### CLACKMANNAN.

###### Admitted

- 1919 Adam, James, Meadowend, Clackmannan  
1920 Alexander, E. Moubray, Newbiggin, Cambus  
1921 Balmain, Thomas, Devonknowes, Tillicultry  
1922 Baxter, James, Pow Farm, Pow Mill, Dollar  
1889 Blair, Charles, Glenfoot, Tillicultry  
1905 Bleloch, James, Estate Office, Dollarbeg, Dollar  
1868 Broadwood, T., East Devon Lodge, Dollar  
1891 Cairns, John, Balquharn, Menstrie  
1921 Cairns, Thomas E., 1 Bedford Place, Alloa  
1910 Christie, Miss Ella R., of Cowden, Dollar  
1922 Congalton, William D., Burnbrae Lodge, Dollar  
1921 Dawson, John, Menstrie Mains, Menstrie  
1892 Dobie, W. H., of Dollarbeg, Dollar  
1918 Drysdale, William, King o' Muirs, Alloa  
1919 Finlayson, John, Orchard Farm, Cambus  
1921 Finlayson, Thomas, 81 Elphinstone Street, Kincardine-on-Forth  
1899 Fisher, John, Jellyholm, Alloa  
1921 Flensing, Andrew, Bankhead, Alloa  
1890 Gellatly, John, Muirside, Cambus  
1910 Grant, James, Viewforth, Alloa  
1900 Gray, Henry, Hawkhill, Kincardine-on-Forth  
1919 Gray, James, Alloa Mills, Alloa  
1900 Gray, Thomas, Seed and Manure Merchant, Alloa  
1909 Grindlay, William, Grassmainston, Clackmannan  
1911 Grosart, John A., Rosevale, Dollar  
1896 Haig, Alexander P., Blairhill, Rumbling Bridge  
1886 Haig, Robert, Dollarfield, Dollar—*Free Life Member*, 1887  
1921 Hamilton, James, Muirpark Farm, Tullibody, by Cambus  
1895 Hattersley, Neil S., Bridge Street, Dollar  
1910 Henderson, John, Westerton, Dollar  
1902 Henderson, Thomas, Strathbraan, Dollar  
1920 Hunter, James, Drumburn Farm, Muckhart, Dollar  
1906 Inglis, George C., M.R.C.V.S., Bedford Place, Alloa  
1900 Kerr, J. E., of Harviestoun Castle, Dollar

###### Admitted

- 1892 Kinross, D. A., Hillend, Clackmannan  
1915 Lang, James, Linbank, Dollar  
1920 M'Callum, James Y., Mayfield, Dollar  
1909 Macfarlane, Edward H., Gartgreenie, Forrest Mill, Clackmannan  
1919 M'Gee, Robert, Blackfaulds, Sauchie, Alloa  
1921 M'Gregor, A., Braehead Farm, Cambus  
1919 M'Laren, James, Longcarse Farm, Alloa  
1906 M'Laren, Rev. John, M.A., Tulliallan Manse, Kincardine-on-Forth  
1898 M'Laren, William, Inch Farm, Kincardine-on-Forth  
1890 Mair, William, Gartary, Clackmannan  
1890†MAR and KELLIE, The Earl of, Alloa Park, Alloa  
1919 Meikle, John, jun., Woodside, Dollar  
1909 Mitchell, James, Arns, Clackmannan  
1900 Moir, Archibald P., Bank Street, Alloa  
1908 Munro, Alexander (Wingate & Lowe), Alloa  
1919 Nicol, William, Middlehall, Dollar  
1904 Prentice, John W., Craigrie Farm, Clackmannan  
1900 Roxburgh, Alexander L., Solicitor, Alloa  
1921 Sinclair, Robert, Glendevon, Muckhart, Dollar  
1921 Sinclair, William, Glendevon, Muckhart, Dollar  
1921 Smith, John, Balhearty, Tillicultry  
1922 Steven, Matthew, Howfold Farm, Dollar  
1918 Steven, William, Middleton, Dollar  
1922 Stevenson, William, Glenhead, Glendevon, Muckhart, by Dollar  
1919 Stirling, Alexander, Kennetpans, Clackmannan  
1915 Stirling, John, Parkhead, Alloa  
1881 Stirling, Robert, Parkhead, Alloa  
1909 Taylor, Luke, Alloa Park, Alloa  
1908 Thomson, J., Claremont Street, Alloa  
1920 Turner, John H. (Messrs G. Sellar & Son, Ltd.), Alloa  
1890 Waddell, Robert, Bridge Street, Dollar  
1899 Walker, James, Lornhill Farm, Alloa  
1919 Watson, James, Craigton Farm, Clackmannan  
1913 Watson, William, Broadcarse Farm, Clackmannan  
1909 Westwood, John, Loanside Farm, Clackmannan  
1909 Westwood, William, Inch of Ferryton, Clackmannan  
1910 Wilson, James L., St Margaret's, Tillicultry

## Admitted

- 1902 Wilson, John G., Tulliallan Estate Office, Kincardine-on-Forth  
 1896 Wilson, John E., Burnside, Alva  
 1923 Wilson, Gavin, Muirfoot Farm, Tilli-coultry  
 1907 Wilson, William, Ellisaiea, Dollar  
 1919 Young, Lewis H., Eggleston Stables, Dollar  
 1889 Younger, James, Arns Brae House, Alloa

## DUMBARTON

- 1919 Adam, David, Auchencraig, Dumbarton  
 1892 Allan, A. Y., Aitkenbar, Dumbarton  
 1921 Anderson, John S. (c/o Henry Pooley & Son, Ltd.), Inglesyde, Kirkintilloch  
 1906 Baird, Montagu William, of Keppoch, Cardross  
 1920 Buchanan, Alexander, Garscadden Mains, Bearsden  
 1920 Buchanan, William Cullen, Garscadden Mains, Bearsden  
 1904 Burns, Alan, of Cumbernauld, Cumbernauld  
 1923 Cadzow, Charles J. M., Gavinburn, Old Kilpatrick  
 1923 Cadzow, Robert A. M., Gavinburn, Old Kilpatrick  
 1876 CAMPBELL, Sir Archibald S. L., of Succoth, Bart., Garscube, by Glasgow  
 1920 Campbell, George Hay, Yr. of Succoth, Garscube, by Glasgow  
 1883 Campbell, J. Adair, Broomley, Alexandria, N.B.  
 1921 Christie, Major George H., D.S.O., Levenfield, Alexandria  
 1920 Collie, Ernest Harold (c/o John I. Thornycroft & Co., Ltd.), Sonning, Bearsden  
 1905 Colquhoun, Archibald G. Campbell, Garscadden, Drumchapel  
 1919 Cowan, Albert Glyn, R. R. No. 2, Listowel, Ontario, Canada (Coulport House, Coulport, near Cove, Dumbartonshire)  
 1895 Davie, William, jun., Main Street, Alexandria, N.B.  
 1912 Douglas, John, Braes of Yetts, Kirkintilloch  
 1881 Duncan, Thomas, Dullatur  
 1921 Dunlop, Robert, Moorlands, Helensburgh  
 1920 Dunlop, R. P., Auchenkiln, Croy Station  
 1919 Ewing, Miss Crum-, Strathleven, Dumbarton  
 1913 Ewing, Humphrey Crum-, of Strathleven, Dumbarton (Nevis, North Berwick)  
 1896 Fergusson-Buchanan, Colonel G. J., of Auchentorlie, Bowling  
 1880 Findlay, R. E., of Boturich, Balloch  
 1897 Fleming, Alexander, Drumkinnon, Alexandria, N.B.  
 1920 Galbraith, James, Arrochar Hotel, Arrochar  
 1881 Gilmour, William E., Woodbank, Alexandria  
 1896 Gray, James, Hawarden, Kirkintilloch  
 1920 Gray, Robert (Messrs Mungo Gray & Co.), Bracklin, Bearsden  
 1919 Hamilton, Andrew, Kessington, Bearsden  
 1909 Hamilton, C. A., Cochno, Dumtocher

## Admitted

- 1921 Hamilton, David J., Auchenhaglish, Alexandria  
 1919 Hamilton, John Kessington, Bearsden  
 1892 Hendrie, John, last known address, Glenbank House, Lenzie  
 1918 Howie, Robert, Drumfork Farm, Helensburgh  
 1921 Howie, Robert, jun., Drumfork Farm, Helensburgh  
 1878 Ker, T. Ripley, of Dougalston, Milngavie  
 1899 Kerr, Thomas B. B., Hopetoun, Bearsden  
 1919 Kinloch, Mrs Annie, Ardoch, Cardross  
 1899 Kippen, William James, of Westerton, Balloch  
 1919 Leckie, John, Easter Shirva, Twechar, Dumbartonshire  
 1899 Leckie, John, Rosebank, Croy  
 1905 Lumsden, James Robert, of Arden, Dumbartonshire  
 1892 Macfarlan, Coll Jas. Turner, Stronafyne, Arrochar  
 1892 Macfarlan, Farlan, Faslane, Gareloch, Helensburgh  
 1912 M'Farlane, Robert, Tulloch, Arrochar  
 1923 M'Gillivray, James, Drumbreck Farm, Kirkintilloch  
 1919 M'Gown, Andrew, Blairdardie, Drumchapel, Dumibarton  
 1889 Mackenzie, Robert, of Caldervan, Balloch  
 1897 MACKENZIE, Colonel Sir Robert C., C.B., D.L., of Edenbarnet, Dumtocher  
 1909 M'Naught, Archibald, Myrtle House, Alexandria  
 1921 MacVey, James, Duchlage, Coulport, near Cove  
 1883 Murray, David, LL.D., Moore Park, Cardross  
 1908 Murray, R. A., of Pirniehill, Drymen Station  
 1895 Murray, W. Watson, Catter House, Drymen  
 1881 Park, Alexander, Ingleside, Lenzie  
 1923 Paterson, Andrew, Mollins Farm, Condorrat  
 1916 Patterson, John T., Yew Bank, Helensburgh  
 1903 Pooley, John S., Eblana, Thorn Drive, Bearsden  
 1883 Rankin, Robert, Bodenheath, Condorrat, Glasgow  
 1919 Robertson, Peter, Home Farm, Dalmuir  
 1920 Robertson, Walter, Auchinleck, Dumtocher  
 1910 Rodger, George S., Baron Cliff, Cove  
 1921 Roy, James, Arden Cottages, Arden, Balloch  
 1919 Russell, Andrew, Summerston, Maryhill, Dumbarton  
 1894 Russell, William, Ard-Luss, Helensburgh  
 1907 Scott, Crawford A., Estate Office, Bearsden  
 1907 Shanks, James, Cairnhill, Bearsden  
 1897 Snodgrass, James, Millig, S. Helensburgh  
 1921 Snodgrass, J. Cecil, Millig, Helensburgh  
 1922 Stevenson, Alexander, Maryville, Dumbarton  
 1922 Stewart, Alexander, Arden Cottages, Arden, Balloch  
 1906 Stewart, W. Milton, Dumtocher  
 1920 Stirling, Robert, Farmer and Grain Merchant, Lenzie Mill, Cumbernauld  
 1921 Stirling, Robert, Mid Forrest Farm, Cumbernauld

Admitted

- 1912 Veitch, William, Drumry Mains, Drum-chapel  
 1923 Walker, Gavin Nisbet, Castlehill Farm, Dumbarton  
 1922 Walker, Thomas, Duchlague Farm, Luss  
 1900 Walter, William R., Chapelacre, Helensburgh  
 1914 Waugh, John, Chapelton Farm, Bearsden  
 1894 Weir, James, Woodilee Farm, Lenzie—*Free Life Member*  
 1882 Whitelaw, Alexander, of Gartshore, Kirkintilloch  
 1922 Wilson, John M., Garshake, Dumbarton  
 1897 Young, James, Springbank, Kirkintilloch  
 1905 Yull, Thomas, *last known address*, Wester Gallowhill, Lenzie

PERTH

(STIRLING SHOW DIVISION).

- 1913 Adam, Archibald, Marple, Addison Crescent, Crieff  
 1900 ANCASTER, Earl of, Drummond Castle, Crieff  
 1883 Anderson, A. H., Kippendavie Estate Offices, Dunblane  
 1919 Anderson, P. S., Kippenross Home Farm, Dunblane  
 1921 Anderson, W., Gart Home Farm, Callander  
 1910 Angus, Alex., Springfield, Dunblane  
 1921 Angus, Charles, Springfield, Dunblane  
 1921 Angus, David, Springpark, Dunblane  
 1919 Baird, Thomas, Westhill Farm, Crieff  
 1900 Ballingall, David, Woodlee, Callander  
 1903 Barty, Alexander Boyd, LL.B., Solicitor, Dunblane  
 1904 Barty, James, LL.B., Solicitor, Dunblane  
 1921 Bathgate, Archibald, Grainston, Dunblane  
 1919 Bell, John Cameron, Calziebohalzie, Dunblane  
 1921 Beveridge, Rev. J., B.D., M.B.E., The Manse, Gartmore  
 1920 Blair, Alexander, Kirkton, Aberfoyle  
 1919 Bonthron, Alex., Craighead, Thornhill, Blair Drummond  
 1910 Brewster, Thomas, Shrubhill, Doune  
 1899 Bryce, William, West Cambusdrennie, Stirling  
 1921 Buchanan, James, Milton, Doune  
 1900 Buchanan, M. Murray, Leny, Callander  
 1904 Cairns, James, Ollaberry, Blackford  
 1900 Cairns, William, of Dalchruin, Crieff  
 1913 Cairns, William, Glenfinlas, Callander  
 1921 Calder, Alistair G., Greenloaning Farm, Braco  
 1919 Calder, James, Millnab Mills, Crieff  
 1920 Cameron, Andrew A., Inverardoch Mains, Doune  
 1900 Cameron, Duncan, Bow, Dunblane  
 1921 Cameron, John, Dalbrack, Dunblane  
 1901 Cameron, R. W. G., Drumharvie, Auchterarder  
 1896 Campbell, James, Tullich, Killin  
 1919 Campbell, Samuel, jun., Locherlour, Crieff  
 1921 Carmichael, D., Ledcharrie, Luib  
 1921 Carmichael, Robert, Drumphin, Crieff  
 1909 Carmichael, William, *last known address*, Butcher, Dunblane  
 1880 Carnegie, James, of Stronvar, Balquhiddy

Admitted

- 1872 Carrick, T. A., Easter Cambusdrennie, Stirling  
 1881 Christie, Gilbert, Auchlyne, Luib  
 1921 Christie, J., Auchline, Luib  
 1920 Clark, George, Hollybush, Crieff  
 1915 Comrie, Peter, Shannacher Farm, Crieff  
 1919 Conchie, James, Castle Feddal, Braco (27 Great Cumberland Place, London, W.)  
 1898 Corry, R. P., *last known address*, Ardvelch, Lochearnhead  
 1909 Crabbie, Miss Ada M., Blairhoyle, Ruskie, Perthshire  
 1919 Craig, James, Innergeldie, Comrie  
 1880 Craig, William, Corriemuckloch, Amulree, Dunkeld—*Free Life Member*  
 1919 Crawford, Hugh, Daldorn Farm, Doune  
 1922 Crawford, Hugh, sen., Daldorn, Doune  
 1922 Crawford, Mrs. Daldorn Farm, Doune  
 1894 Dempster, John, Estates Office, Gartmore, Perthshire  
 1919 Dewar, John, Mill of Drummond, Muthill  
 1894 Dick, James, Ballinton, Thornhill  
 1921 Dick, John M., Murdieston, Thornhill  
 1921 Dick, Robert, jun., Murdieston, Thornhill  
 1921 Diekle, David, jun., Newbiggin, Fowlis Wester, Crieff  
 1921 Dickie, John, Newbiggin, Fowlis Wester, Crieff  
 1913 Dickson, William Collins, Glassingall, Dunblane  
 1899 Dron, W. A., Crieffvechter, Crieff  
 1919 Dron, William Douglas, Crieffvechter, Crieff  
 1905 Drummond, Colonel Arthur Hay, of Cromlix, Dunblane  
 1921 Drummond, James, Littlefold, Crieff  
 1919 Drummond, William, Lawers Home Farm, Comrie  
 1919 Drummond, William A., *last known address*, Pett Farm, Muthill  
 1921 Dryburgh, Robert, Braehead House, Doune  
 1905 Duncan, James, Culticheldoch, Muthill  
 1900 Duncan, John L., Laurelbank, Blackford  
 1907 Dundas, David J. W., Craigarnhall, Bridge of Allan  
 1916 Elder, George, Wester Cambushinnie, Kinbuck  
 1921 Ewing, George R., Leggan, Crieff  
 1900 Ewing, George T., Pitkellony, Muthill  
 1921 Ewing, John, North Hillhead, Muthill  
 1916 Fairweather, Robert W., Factor, Blair Drummond  
 1903 Ferguson, Alexander, Lundie Farm, Doune  
 1903 Ferguson, John, Glenartney Forest, Comrie  
 1921 Finlayson, Malcolm, jun., Mid-Lundie, Doune  
 1921 Fisher, Daniel, Tarr Farm, Ruskie  
 1921 Fisher, James, Greenloaning Farm, Braco  
 1921 Fisher, James, Tarr Farm, Ruskie  
 1903 Fisher, Robert S., Ballimore, Balquhiddy  
 1891 Fleming, James, Easter Coul, Auchterarder  
 1914 Forbes, John, Mansfield, Doune  
 1920 Fotheringham, Alex., Woodlane, Blair Drummond  
 1911 Fulton, James, Anchorcross Farm, Dunblane  
 1896 Gardiner, James, M.P., Dargill, Crieff  
 1904 Gardiner, William, Henhill, Forteviot, Forgandenny

## Admitted

- 1921 Gibson, Andrew, Deanston, Dolerie Terrace, Crieff  
 1910 Gibson, Wilfred Lawson, Glenallan, Dunblane  
 1921 Gifford, James, Pairnie, Auchterarder  
 1919 Gillespie, George, Dalney Farm, Callander  
 1905 Gilmour, John, General Merchant, Blackford  
 1920 Gordon, William, Dalpatrick, Crieff  
 1921 Gow, David, Ballochragie Farm, Crieff  
 1900 Graham, George, Faraway, Kippen Station  
 1897 Grahame, A. M. B., Arntomy, Port of Menteith  
 1921 Grahame, Monteith James Hill, Glenly, Port of Menteith  
 1897 Graham-Stirling, Major C. Home, of Strowan, Crieff  
 1879 Grant, J., J.P., Buchanan House, Callander  
 1921 Haggart, George, Barns, Auchterarder  
 1921 Henderson, Archibald, Balabeg, Port of Menteith  
 1901 Henderson, James W., Clarkton Farm, Doune  
 1874 Hill, Robert Robertson, Morven, Dunblane  
 1921 Holmes, John, Netherton, Doune  
 1895 Holmes, Robert K., Netherton, Doune, Perthshire  
 1919 Hood, William Walker, Invergeldie, Comrie  
 1921 Horaburgh, A., Estate Office, Nether Oloan, Auchterarder  
 1921 Johnston, Thomas, Malling, Port of Menteith  
 1919 Kerr, John, Abbey Farm, Madderty, Crieff  
 1919 King, Walter, Airthrey Kerse, Bridge of Allan  
 1921 Kirk, John James, Stonehill, Dunblane  
 1921 Kirk, Robert, Stonehill, Dunblane  
 1921 Laird, Anthony, Cowden, Comrie  
 1921 Laird, David, Waterside, Dunblane  
 1921 Laird, William, Waterside, Kinbuck  
 1919 Lennox, Andrew L., Craigend, Crieff  
 1907 Lennox, James, Redhills, Balgowan, Crieff  
 1907 Lennox, William, Kirkton, Auchterarder  
 1921 Lithgow, Colin John, The Knowe Poultry Farm, Dunblane  
 1915 Lithgow, John, The Knowe, Dunblane  
 1900 Lyon, William, Margbeg, Ardeonaig, Killin  
 1921 M'Ainsh, T., Kinrara, Crieff  
 1907 M'Ar, Robert, Mains of Callander, Crieff  
 1919 M'Ar, Thomas B., Brae of Monzie, Crieff  
 1920 Macbeth, W. Glichrst, of Dunira, Comrie  
 1921 MacCall, Daniel, Kirklane, Blair Drummond  
 1922 M'Callum, Archibald, The Quilt, Monzie, Crieff  
 1898 M'Coll, Duncan, Ballinluig, Stronvar, Balquhiddier  
 1922 M'Cowan, David, Monzie Castle, Crieff  
 1900 M'Cowan, James, Williamfield, Braco  
 1896 M'Diarmid, James, Oakleigh, Comrie  
 1902 M'Donald, John, Nether Shannochill, Gartmore Station  
 1920 M'Ewan, Hugh, Blacksmith, Kinbuck, by Dunblane  
 1897 MacEwen, William, Mains of Boquhapple, Thornhill, Perthshire  
 1897 MacFarlane, Andrew, Chalmersaton, Stirling  
 1915 M'Farlane, Andrew, Netherton, Blackford, Perthshire

## Admitted

- 1891 MacFarlane, Charles, East Brackland, Callander  
 1906 M'Farlane, George, Balmore, Balquhiddier  
 1920 M'Farlane, Henry G., Netherton, Blackford  
 1921 MacFarlane, John, M.R.C.V.S., Doune  
 1920 M'Farlane, John, Netherton, Blackford  
 1900 M'Feat, Robert, Kingwells, Auchterarder  
 1919 M'Gibbon, James, Easter Garden, Port of Menteith  
 1921 M'Glashan, John, High Street, Auchterarder  
 1919 M'Gregor, Donald, Inverchaggernie, Crianlarich  
 1921 M'Gregor, James, West Kirkton, Auchterarder  
 1909 M'Ildowie, James, Easterton, Doune  
 1914 M'Innes, Matthew, Isla House, Crieff  
 1921 M'Inroy, William, Gowanbrae, Dunblane  
 1909 MacIntosh, D., West Mains of Colquhazie, Machany  
 1919 M'Intyre, Donald Reid, Tighnablairst, Comrie  
 1921 M'Intyre, James, Hilden, Auchterarder  
 1921 M'Intyre, J. C., Auchterarder  
 1899 M'Intyre, Peter, Littleport, St Fillans  
 1900 M'Intyre, Peter, Tighnablairst, Comrie  
 1910 Mackenzie, James, Dunblane Hotel, Dunblane  
 1909 Mackenzie, James, Cambushinnie, Dunblane  
 1896 M'Laren, A., Dall Lodge, Killin  
 1909 M'Laren, Donald, of Bracklenn, Callander  
 1909 M'Laren, John, Cromdale, Dunblane  
 1888 M'Laren, W. D., Drummore, Doune  
 1909 M'Laren, W. F., Naemoor Estates Office, Rumbling Bridge  
 1922 M'Lauchlan, James, Doldorn, Doune  
 1921 MacLean, Neil, Wester Feddal, Braco  
 1919 M'Naughton, Alastair, Inverlochlarig, Balquhiddier, R.S.O.  
 1871 M'Naughton, John, Inverlochlarig, Balquhiddier, R.S.O.  
 1879 M'Naughton, Robert, of Cowden, Comrie  
 1921 M'Naughton, Thomas, Lower Whiteston, Kinbuck  
 1899 M'Nee, John, Colony Farm, Crieff  
 1921 Macpherson, Angus, Newbigging, Auchterarder  
 1879 Main, R. R., Cairngower, Crieff  
 1908 Marshall, Hugh, Stirling Arms Hotel, Dunblane  
 1921 Marshall, Richard, Baad Farm, Gartmore  
 1921 Marshall, Thomas Walter, Fendoch, Crieff  
 1872 Marshall, W. H., of Callander (25 Heriot Row, Edinburgh)  
 1921 Maxwell, William, Kirklane, Blair Drummond  
 1919 Meikle, John, Urr Vale, Dunblane  
 1920 Menzies, John, East Chapel, Auchterarder  
 1921 Menzies, Lorn, Keir Gask, Auchterarder  
 1887 Miller, Robert, last known address, Blair Castle, Culross  
 1920 Miller, James, East Hill, Auchterarder  
 1920 Miller, Robert L., Lowbank Farm, Auchterarder  
 1923 Miller, William, Toddstown, Madderty, Crieff  
 1921 Mitchell, D., Auchinlach, Callander  
 1900 Mitchell, James P., Glenmane, Callander

**Admitted**

1900 Mitchell, John, Greenyards, Dunblane  
 1919 Mitchell, John P., Solicitor, Comrie  
 1913 Moir, William, Netherton, Thornhill, Stirling  
 1920 Moubray, John, Naemoor, Rumbling Bridge  
 1882†Moubray, John James, of Naemoor, Rumbling Bridge  
 1922 Moubray, Mrs May M., Naemoor, Rumbling Bridge  
 1920 Mounbray, Robert, Naemoor, Rumbling Bridge  
 1921 Muir, Sir A. Kay, Bart., of Blair Drummond, Perthshire  
 1919 Muir, James Finlay, Braco Castle, Perthshire  
 1921 Muirhead, James, Briarlands, Blair Drummond  
 1898 Muirhead, John, Briarlands, Blair Drummond  
 1870 Murray, David, Rossearn, Comrie  
 1921 Nairn, John, Borland, Blackford  
 1894 Newbigging, Alexander, of Dalchonzie, Comrie  
 1900 Paterson, Alexander, Hill of Drip, Stirling  
 1920 Paterson, George, Lochend, Port of Menteith  
 1909 Paterson, George, Watston, Doune  
 1919 Paterson, James, Burnbank, Blair Drummond  
 1882 Paterson, John, Kirkton, Tyndrum  
 1919 Paterson, William, Coldoch, Blair Drummond  
 1921 Peterkin, William Bruce, Kingshouse, Balquhither  
 1921 Petrie, David W., Greenburn Farm, Doune  
 1920 Philip, James, Carsemeig Farm, Braco  
 1909 Pollock, William, Topfold, Blackford, Perthshire  
 1921 Prentice, Thomas, Knapplands, Muthill  
 1921 Ramsay, J., Glassick, Braco  
 1914 Rankin, Captain Lewis D., Lochlane, Crieff  
 1900 Reid, Andrew T., Auchterarder House, Auchterarder  
 1920 Reid, John W. (N.D.A., C.D.A.), St Ola, Dunblane (6 Blythwood Square, Glasgow)  
 1918 Richardson, David, Hutcheson, Dunblane  
 1921 Richardson, James G., Hutcheson, Dunblane  
 1909 Ritchie, Alexander, Cardross Estate Office, Port of Menteith  
 1921 Robb, Alex., Parks of Garden, Port of Menteith  
 1919 Robertson, Charles, jun., Boreland, Muthill  
 1921 Robertson, James, East Bigge, Blackford  
 1923 Robertson, James, Millhills, Crieff  
 1905 Robertson, Robert, St Margaret's, Muthill  
 1919 Robertson, Thomas K., jun., Bishopsfauld, Comrie  
 1919 Robertson William, Park of Keir, Dunblane  
 1919 Rocky, Captain Norman Frank W., Lawers, Comrie  
 1919 Rodger, William, Auchelchanzie, Crieff  
 1921 Rogerson, Miss Bertha Stanley, Rokeby, Dunblane  
 1883 Rollo, Lord, Duncrub House, Dunning  
 1900 Ross, Charles D., 14 High Street, Crieff  
 1920 Rowan-Thomson, John Leslie, The Gart, Callander

**Admitted**

1920 ROWAN-THOMSON, Sir William, K.B.E., The Gart, Callander  
 1896 Rowat, Robert, Swanfield, Crieff  
 1913 Roy, William, St Ives, Crieff  
 1920 Sands, James, Moss-side, Thornhill, Perth  
 1905 Scott, George, Gerriehrew, Comrie  
 1921 Scott, James, Portend, Port of Menteith  
 1898 Scott, John A., Glenmahe, Callander  
 1921 Scougall, David, Ardunnie, Crieff  
 1922 Scougall, David, Hilton of Cardross, Port of Menteith  
 1919 Scougall, James, Hilton of Cardross, Port of Menteith  
 1922 Scougall, P. M'K., Hilton of Cardross, Port of Menteith  
 1902 Scrimgeour, John, Doune Lodge, Doune  
 1890 Sharp, George R., Middleton House, Blackford  
 1919 Sharp, J. Barclay B., South Torr, Crieff  
 1881 Sharp, James R., Viewfield, Blackford  
 1921 Sharp, John, Mid Foudoun, Auchterarder  
 1900 Sharp, Thomas M., Bardrill, Blackford  
 1909 Shaw, John, Middleton of Culdees, Muthill  
 1919 Sim, David, Carshead, Crieff  
 1919 Sim, Robert, Victoria, Muthill  
 1919 Smith, James M'Gill, Connachan, Crieff  
 1920 Snadden, William M'Nair, Caldock Blair Drummond  
 1875 Stark, M. C., Westerton Farm, Doune  
 1900 Stewart, Alexander, Corscaple, Dunblane  
 1919 Stewart, Duncan M'Callum, of Millhills, Crieff  
 1904 Stewart, D. Y., Drumlochy, Blackford  
 1922 Stewart, James, Laggan, Strathyre  
 1895 Stewart, John, Bochastle, Callander  
 1922 Stewart, Mrs, Millhills, Crieff  
 1921 Stewart, Robert, Royal Hotel, Tyn-drum  
 1922 Stirling, Captain Archibald, of Garden, Port of Menteith Station  
 1889†Stirling, Brig-General Arch., of Keir, Dunblane  
 1900 Stirling, James, Dykedale, Dunblane  
 1903 Stirling, James, Kippendavie Mains, Dunblane  
 1909 Stirling, James S., Knockhill, Bridge of Allan  
 1900 Stirling, Colonel John Alex., of Kippendavie, Dunblane  
 1921 Stirling, Miss Mary C., Upper White-stone, Dunblane  
 1921 Stirling, Robert, Silvertown, Braco  
 1909 Strang, William, Kintochoer, Crieff  
 1910 Thomas, Robert, Littledene, Dunblane  
 1919 Thomson, John, Broch, Doune  
 1910 Tod, William P., Blair Ochil, Dunblane  
 1909 Tulloch, Charles O., Ardochlea, Perth Road, Dunblane  
 1920 Turnbull, Thomas, Castlevie, Bridge of Allan  
 1904 Turner, Joseph, of Greenhill, Braco  
 1920 Walker, Andrew, East Mains, Tullibardine, Auchterarder  
 1921 Walker, Peter, Clachaig, Killin  
 1913 Waters, Mrs Marian, Edinample, Lochearnhead  
 1919 Watson, Strath, Rottarns Mills, Greenloaning, Braco  
 1921 Waugh, John, Raith, Auchterarder  
 1914 Willie, Mrs, Kiltane, Stirling  
 1920 Willie, R. L., Kiltane, Stirling  
 1899 Willison, Captain Campbell, Tirarthur, Killin



**Admitted**

- 1900 Willison, Douglas, Acharn, Killin  
 1919 Wilson, Captain Sir James R., of Airdrie, Bart., Invercrossachs, Callander  
 1919 Wilson, Sir James, K.C.S.I., Anneslea, Perth Road, Orrie  
 1915 Wilson, John F., *last known address*, Pittentian, Orrie  
 1905 Wilson, Peter, Lawhill, Auchterarder  
 1920 Wood, John, Townhead Farm, Braco  
 1914 Wood, William, Farinton, Machany, Orrie  
 1921 Wright, Edward, Ruthven Street, Auchterarder  
 1909 Wylie, James, Stockbridge, Dunblane  
 1905 Young, David, Barbush Farm, Dunblane  
 1904 Young, David, Hilton of Gask, Auchterarder  
 1922 Young, John, Glenwhilk, Dunblane  
 1921 Young, Neil, Hall of Aberuthven, Auchterarder  
 1894 Young, Robert, Charlesfield Lodge, Gask, Auchterarder

**STIRLING.**

- 1921 Adam, Henry, 19 Wallace Street, Stirling  
 1921 Adam, John (Messrs M'Ewen Bros.), 16 Barnston Street, Stirling  
 1921 Adam, John, Muirpark, Denny  
 1921 Adam, Thomas, Wester Greenyards, Bannockburn  
 1921 Addison, John B., Candie Farm, Avonbridge  
 1921 Addison, John W., Craigquarter Farm, Stirling  
 1922 Addison, Steve, Auctioneer, 4 Queen Street, Stirling  
 1921 Addison, William, Craigquarter Farm, Stirling  
 1900 Atken, Thomas, The Grove, St Ninians, Stirling  
 1921 Aitkenhead, Catherine E., N.D.A., N.D.D., C.D.A., Garscube, Causewayhead, Stirling (6 Blythwood Square, Glasgow)  
 1915 Aitkenhead, David M., Roughlands, Carron  
 1901 Aitkenhead, Walter, Haining Valley, Polmont  
 1922 Alexander, William, Banknock House, Banknock  
 1920 Allan, John, Roselandhall, by Falkirk  
 1922 Allison, James, Maple House, Bridge of Allan  
 1910 Anderson, James, Broadleys, Stirling  
 1922 Anderson, John, 6 Allan Park, Stirling  
 1921 Archibald, Major James R., 29 Snowdon Place, Stirling  
 1910 Archibald, William, Muiredge, Lennoxtown  
 1915 Arding, Mrs Florence M., Haining Valley, Polmont  
 1921 Auld, Andrew, 21 Glebe Avenue, Stirling  
 1919 Bain, Samuel, jun., Mains Farm, Gargunnoch  
 1921 Baird, Alexander A., Birchfield, Falkirk  
 1907 Baird, John Calderwood, Birchfield, Falkirk  
 1923 Bellantyne, John F., Yonderhaugh Farm, Bothkennar, Falkirk  
 1900 Barnes-Graham, Allan, of Craigallan, Milngavie  
 1906 Bartholomew, James, Glenorchard, Torrance, near Glasgow, Stirlingshire

**Admitted**

- 1919 Bean, John, Sherifmuirland, Causewayhead  
 1920 Bell, James, Carston, Killearn  
 1921 Bewley, Harry George, 28 Upper Castle Hill, Stirling  
 1909 Binnie, Robert, Plean Farm, Plean  
 1920 Binnie, Thomas, Lynnmill, Avonbridge, Stirling  
 1886 Bolton, Edwin, of West Plean, Bannockburn  
 1920 Bowie, James, Avondale Farm, Polmont  
 1919 Bowie, James, jun., Whitefauld, Torrance  
 1921 Boyd, Robert, Dougal's Hill, Airth, by Stirling  
 1893 Boyle, A. H., *last known address*, Banknock House, Castlery  
 1905 Brown, Andrew, Knowhead, Kippen Station  
 1888 Brown, Charles, Kerse Estate Office, Falkirk  
 1900 Brown, John, Dalderse, Falkirk  
 1905 Brown, John, 14 Port Street, Stirling  
 1920 Brown, Matthew, Burnside, Somer Lane, by Stirling  
 1905 Brown, Robert, Waukmilton Farm, Linlithgow  
 1921 Brown, William M., Dalderse Farm, Falkirk  
 1919 Bryce, Thomas K., Westwood, Stirling  
 1921 Buchanan, Andrew, Abercromby Place, Stirling  
 1897 Buchanan, Andrew C., Solicitor, Stirling  
 1909 Buchanan, Charles A., Deroran, Stirling  
 1890 Buchanan, John, Inverallan House, Bridge of Allan  
 1921 Cairns, John, West Plean Farm, Plean  
 1921 Calder, Alex., jun., Drumbrolder, Avonbridge  
 1921 Calder, Jack, 2 Albert Place, Stirling  
 1922 Caldwell, William, Hillhead Farm, Drymen  
 1921 Campbell, Hugh, Carron House, Carronshore, Falkirk  
 1919 Campbell, John, Land Steward, Carron House, Carronshore, Falkirk  
 1921 Carrick, Thomas Anderson, jun., Cambusdrenny, Stirling  
 1909 Carrick, William, The Baad, Stirling  
 1900 Carswell, John, Graham Road, Grahamston, Falkirk  
 1921 Carawell, Robert, Dykes, Stirling  
 1899 Chapman, William, Bank of Scotland, Denny  
 1919 Christie, Alexander, Dalfoil, Balfron, Stirling  
 1921 Christie, A., Back o' Muir, Bannockburn  
 1921 Christie, James, jun., Cowiehall Farm, Cowie, Bannockburn  
 1921 Christie, John, Fulton, of Netherton, Balfron  
 1921 Christie, Robert, 9 Glebe Crescent, Stirling  
 1921 Christie, Roy, Craigs, Stirling  
 1921 Christie, William, Newpark, Stirling  
 1921 Christie, William, Sauchie Home Farm, Stirling  
 1900 Clark, Alexander, 12 Drummond Place, Stirling  
 1909 Clark, John, Hardlands, Bothkennar, Falkirk  
 1921 Clarke, William, *last known address*, Swiss Cottage, Dunmore  
 1894 Clarkson, Robert, *last known address*, Avondale, Polmont

**Admitted**

1921 Cochran, Mungo, Balmoral Place, Stirling  
 1920 Cook, Alex., Burnhouse, Denny  
 1921 Couper, Arthur John, of Craigforth, Stirling  
 1914 Cowan, John, 15 Glasgow Road, St Ninians, Stirling  
 1921 Cowan, William, Balquhiderock, Bannockburn  
 1921 Cox, D. R., Road Surveyor, The Enclosure House, Stirling  
 1921 Crawford, Andrew, Cambuskenneth, Stirling  
 1899 Crawford, Ewing R., of Auchentroig, Buchlyvie  
 1921 Crawford, Henry, Cambuskenneth, Stirling  
 1921 Cullens, James, Port Street, Stirling  
 1921 Cullens, James, jun., Drummond Place, Stirling  
 1919 Cullens, John D., Lorne Villa, Bridge of Allan  
 1919 Currie, William, Nelson Place, Stirling  
 1921 Cuthbert, William, 18 Park Crescent, Stirling  
 1921 Cuthill, David, Drip Bridge, Stirling  
 1921 Davidson, William C., Factor, Sauchie Estate Office, Stirling  
 1864 Dewar, A., Arnprior, Kippen Station  
 1900 Dewar, Andrew, 8 Victoria Place, Stirling  
 1921 Dewar, Andrew, Solicitor, Barnton Street, Stirling  
 1900 Dewar, John W., King's Park, Stirling  
 1896 Dewar, Peter, Arnprior, Kippen Station  
 1899 Dewar, Peter, Kildean, Stirling  
 1921 Dewar, Robert, Kildean Cottage, Stirling  
 1921 Dick, David, L.D.S., Melville Terrace, Stirling  
 1921 Dickie, Israel, Golden Tractor & Motor Works, Murray Place, Stirling  
 1908 Donaldson, W. Betts, of Auchinaden, Blanehead  
 1922 Dougall, John, Learig, Abbotsgrange Road, Grangemouth  
 1908 Dougan, Andrew, 11 Williamfield Avenue, Stirling  
 1911 Doull, Donald, M.A., A.R.C.Sc., 7 Station Road, Cambus, Stirling—*Free Life Member*  
 1921 Dow, John, Raploch, Stirling  
 1906 Downie, Robert, Knock O'Ronald, Gargunnoch  
 1890 Drummond, James W., Seed and Nursery Establishment, Stirling  
 1908 Drysdale, John, Dundas School, Grangemouth  
 1921 Duncan, Joseph F., Secretary, Scottish Farm Servants' Union, Queensgate, Stirling  
 1921 Duncanson, James, 15 Abercromby Place, Stirling  
 1918 Dunn, Andrew, Duncarron, Denny, Stirling  
 1921 Eadie, John, Blair Mains, Blairlogie  
 1921 Eadie, Ronald, Blair Mains, Blairlogie  
 1922 Eadie, William, Newhouse, Grangemouth  
 1920 Eadie, William Brewer, 10 Irvine Place, Stirling  
 1881 Edmond, John, of Gallamuir, Plean  
 1919 Edmond, William, Gallamuir, Plean  
 1889 Ensmowrowe, Sir Archibald, of Duntreath, Bart., Duntreath Castle, Strathblane  
 1920 Easlemont, Alex., Bridgehaugh, Stirling

**Admitted**

1920 Falconer-Stewart, Major C., M.C., Hillpark, Bannockburn  
 1922 Ferguson, Thomas, Avondale, Dumbarton Road, Stirling  
 1897 Finlayson, William, Throak, Stirling  
 1915 Forbes, Charles William, J.F., D.L., of Callendar, Callendar House, Falkirk  
 1906 Forrest, James F., M.R.C.V.S., Arngibbon, Port of Menteith Station  
 1919 Fotheringham, William, West Drip, Stirling  
 1921 Gardner, William, Gartentruch, Buchlyvie  
 1921 Gellan, Alexander, Dunmore Park, Larbert  
 1919 Gifford, William H., Haughs of Airth, Bothkennar, Stirlingshire  
 1921 Gilchrist, Robert, Arnvicar, Port of Menteith Station  
 1914 Gilchrist, William, Holdfietts Farm, Grangemouth  
 1897 Gillies, Neill, The Clydesdale Bank, Ltd., Stirling  
 1921 Gilmour, J. H., 5 Park Avenue, Stirling  
 1919 Glen, James, Ashfield, Park Place, Stirling  
 1923 Gordon, James, Torbrex Nurseries, Stirling  
 1921 Graham, James A., Laraben, Kippen Station  
 1894 Graham, James D., Airthrey Castle, Bridge of Allan  
 1921 Grant, James, Dunmore Village, by Larbert  
 1914 Gray, Andrew, Kersie Mains, Stirling  
 1891 Gray, James, Birkenwood, Gargunnoch  
 1919 Gray, James, jun., Crawfordston, Kippen  
 1901 Gray, John (Gray & Co., Grain Merchants), Stirling  
 1919 Gray, Peter M., 10 Albert Place, Stirling  
 1914 Grindlay, William, Knowhead Farm, Dennyloanhead  
 1919 Guild, Thomas, Allanfauld, Kilsyth  
 1921 Hain, David J., 1 Millar Place, Stirling  
 1878 Henderson, A. W., Rustic Bank, Bridge of Allan  
 1921 Henderson, Duncan, Burnbank, Throak, Stirling  
 1920 Henderson, John, Barnton Street, Stirling  
 1920 Henderson, William, 27 Barnton Street, Stirling  
 1921 Hendry, Andrew, Greenwells Farm, Shieldhill, by Falkirk  
 1900 Hetherington, William, 27 Port Street, Stirling  
 1911 Hill, Robert, Claylands Farm, Kippen  
 1920 Hill, Thomas, Roseburn Farm, Drip Post, by Stirling  
 1920 Hope, Alex. M., Easter Greenyards, Bannockburn  
 1910 Hope, Thomas, East Green Yards Farm, Bannockburn  
 1898 Hornebrugh, Charles E., Blairquhosh, Blanehead  
 1921 Howie, John Currie, Carbeth Home Farm, Balfour Station  
 1921 Inglis, John, Patrickston, Gargunnoch  
 1921 Jaffray, Hugh, Kaimes, Stirling  
 1881 Jaffrey, William, Easter Orerance, Buchlyvie  
 1921 Jenkins, George R., Glebe Avenue, Stirling

## Admitted

- 1920 Jenkins, James, jun., 11 Clifford Road, Stirling  
 1917 Johnston, John, Carbrook Mains, Larbert  
 1915 Johnston, Thomas, Standalane, Falkirk  
 1920 Johnston, Thomas, Powdrake Farm, Airth Station, Larbert  
 1921 Johnston, Mrs T., Powdrake Farm, Airth Station, Larbert  
 1921 Johnston, William, Newmills, Stirling  
 1919 Jones, P. Forbes, Dunmore, Larbert  
 1920 Kay, James, Mill Farm Gargunnoch  
 1881 Keay, Robert, 6 Queen's Road, Stirling  
 1919 Kenny, Michael, Robertson's Lane, by Stirling  
 1909 Kerr, James, Easter Culmore, Kippen Station  
 1915 Kerr, William, Bundeath, Stirling  
 1921 Kilpatrick, George T., 64 Murray Place, Stirling  
 1915 King, James, Old Keir, Bridge of Allan  
 1919 King, John, Old Croft, Stirling  
 1921 Kinross, William, 13 Clarendon Place, Stirling  
 1915 Laing, William, 11 Pitt Terrace, Stirling  
 1909 Laird, John, Auchentreoch Mains, Milton of Campsie  
 1921 Lang, Andrew, Grain Merchant, Falkirk  
 1909 Lang, John, Culbeg, Gargunnoch  
 1921 Lang, Matthew, Arnnmore, Kippen Station  
 1909 Lang, Robert, Foot o' Green, Gargunnoch  
 1900 Latta, Robert M., Dougalston, Milngavie  
 1921 Lawson, W. Scott, Castleview, Stirling  
 1880 Learmonth, George G., Mount Pleasant House, Pleasance Gardens, Falkirk  
 1901 Learmonth, James, Darriely House, Stirling  
 1920 Lennox, Mrs Janet R. (Barbush, Dunblane), 1 Clarendon Place, Stirling  
 1922 Lennox, W. G. P. Kincaid, of Lennox Castle, Lennoxtown  
 1909 Leslie, Sheriff J. Dean, 16 Victoria Place, Stirling  
 1921 Letham, William H., Woodend, Buchlyvie  
 1919 Logan, James, Powis Mains, Blairlogie, Stirling  
 1915 Logan, John, Powis Mains, Stirling  
 1921 Lucas, James, Ladyneuk, Stirling  
 1921 Lupton, Thomas, Solicitor, 16 Abercromby Place, Stirling  
 1900 Macadam, Archibald, Blairroer, Drymen Station  
 1921 McAllister, John, Timber Merchant, St Ninians, Stirling  
 1909 McCallum, Daniel, 10 Williamfield Avenue, Stirling  
 1921 McCowan, John P., Bridge of Frew, Kippen  
 1921 McCulloch, John, Myreton, Kippen Station  
 1921 McCulloch, Joseph, North Mid Frew, Kippen Station  
 1921 McCulloch, Reginald, Myreton, Stirling  
 1921 McCulloch, Robert, Kepdarroch, Gargunnoch  
 1921 McDermont, James, 27 Forth Crescent, Stirling  
 1899 McDiarmid, J. A., Dunstan, Buchlyvie  
 1921 McDiarmid, Duncan, Candieworks, Stirling  
 1921 McDonald, Coll., Pendretch, Bridge of Allan

## Admitted

- 1921 M'Ewen, Daniel, Allan Park, Stirling  
 1909 M'Ewen, Daniel, Port Street, Stirling  
 1909 M'Ewen, Duncan, Sunnyslaw, Bridge of Allan  
 1921 M'Ewen, James, Hillhead, Cambusbarron  
 1921 M'Fadyen, Dr Peter, Park Avenue, Stirling  
 1921 M'Farlane, Andrew C., Dripend, Stirling  
 1891 Macfarlane, James, of Oxhill, Buchlyvie  
 1898 Macfarlane, John, Baldernock House, Callander  
 1909 M'Farlan, Robert, Springkerse, Stirling  
 1921 M'Farlane, Robert, Oxhill, Buchlyvie  
 1886 Macfarlane, Robert C., Craigforth Mills, Stirling  
 1919 M'Farlane, Thomas, Viewforth, Bannockburn  
 1919 MacGregor, Donald, West Leys, Bridge of Allan  
 1918 M'Kenzie, William, 17 Forth Crescent, Stirling  
 1919 M'Kerracher, Alex., Raploch, Stirling  
 1921 M'Kerracher, John, 28 Union Street, Stirling  
 1922 M'Kerracher, Robert, Hardieston, by Kippen  
 1891 M'Laren, James, Cornton, Stirling  
 1919 M'Laren, James, jun., Cornton, Stirling  
 1919 M'Laren, Laurence D., Cornton, Stirling  
 1920 M'Lay, Thomas, 14 Queen Street, Stirling  
 1903 Maclean, Donald, Peatriggend House, Slamannan  
 1921 M'Millan, James, Cornton Vale, Bridge of Allan  
 1920 M'Nee, Alexander, Nicolson Farm, Polmont  
 1921 M'Nee, Thomas, Nicolson Farm, Polmont  
 1921 M'Queen, Alex., Blackhouse, Kippen Station  
 1920 M'Queen, John, Laigh Finnich, Killearn Station  
 1919 M'Queen, Robert R., 62 Queen Street, Alva  
 1921 M'Queen, Samuel, Glendarroch, Kippen  
 1921 M'Queen, William, Forder, Kippen Station  
 1922 Mailer, Daniel MacIntyre, Ladylands, Kippen  
 1922 Mailer, John, Ladylands, Kippen  
 1919 Mailer, Peter, Ladylands, Kippen Station  
 1919 Main, Thomas, Sauchenford, Bannockburn  
 1913 Malcolm, John, 6 Argyll Avenue, Stirling  
 1918 Malcolm, Maurice, Boromeadow, Stirling  
 1919 Malcolm, Robert, Angus Step, Kippen Station  
 1909 Marshall, James, Overtown, Grange-mouth  
 1913 Marshall, John, Laverockhall, Torrance  
 1909 Matthew, William, Borestone Place, St Ninians, Stirling  
 1921 Melkie, Robert, Riskend Farm, Kilsyth  
 1921 Melkie, Robert W., Bearcrofts, Grange-mouth  
 1915 Melkie, William, Polmont Hill, Polmont  
 1920 Menzies, James, Abercromby Place, Stirling

Admitted

- 1921 Michie, John T., Bank Agent, Balfrou  
1921 Millar, Samuel A. (Messrs J. Millar & Sons), Craigs, Stirling  
1921 Miller, D., Dairyman, Quakerfield, Bannockburn  
1923 Miller, Ian C., Witch Craig Poultry Farm, Blairlogie  
1920 Miller, James, Bonny-side Farm, Bonny-bridge  
1919 Miller, Robert, Seabegs Farm, Bonny-bridge  
1912 Miller, Robert, Stirlingshire Poultry Farm, The Boards, Denny  
1921 Minty, James, J.P., 72 Murray Place, Stirling  
1909 Mitchell, Alexr., Haugh of Blackgrange, Cambus  
1922 Mitchell, Archibald, Waterslap, Airth, Larbert  
1918 Mitchell, Donald, Easter Ross, Gargun-nock  
1885 Mitchell, James, Bannockburn House, Bannockburn  
1921 Mitchell, R., Dasherhead, Gargun-nock  
1881 Moir, Alexander, Nether Carse, Gargun-nock  
1921 Moir, Andrew, Nethercar-se, Gargun-nock  
1921 Moir, George, Nethercar-se, Gargun-nock  
1919 Monach, James, Craignorton, Buchlyvie  
1921 Monteath, Alexander, Royal Hotel, Bonnybridge  
1901 Monteath, John, Wright Park, Kippen  
1920 Monteith, Arthur R., 67½ Port Street, Stirling  
1920 Monteith, Harold E., 67½ Port Street, Stirling  
1876\*† Montrose, The Duke of, K.T., Buchanan Castle, Drymen  
1921 Moores, Ballie David, 49 Wallace Street, Stirling  
1921 More, Buchanan, Fordhead Farm, Kippen  
1921 More, David, Mains of Boquhan, Kippen Station  
1912 More, James, Woodetty, Gargun-nock  
1919 More, John, Gogar Mains, Stirling  
1919 More, Moses, Mains Farm, Buchlyvie  
1921 More, Robert, Fordhead, Kippen  
1919 More, William, Fourmerk Farm, Kippen Station  
1903 Morton, David L., King Street, Stirling  
1920 Muirhead, James C., Abercromby Place, Stirling  
1921 Muirhead, James Marshall, Greenocks, Bridge of Allan  
1919 Muirhead, Peter, Pirnhall Farm, Bannockburn  
1919 Muirhead, William, Little Denny, Denny  
1921 Muirhead, William, Pirnhall Farm, Bannockburn  
1908 Murray, Major A. B., of Polmaise, Stirling  
1919 Neilson, Thomas, Clayfaulds, Balfrou, Stirling  
1923 Neilson, William, Drumtassie, Avon-bridge  
1920 Nelson, Alexander, The Cross, Bardowie, Milngavie  
1905 Orr, Andrew, Coldrach, Drymen  
1913 Orr, George, Boagston, Avonbridge  
1915 Oswald, John, Northfield, Denny  
1920 Oswald, William, Northfield Farm, Denny  
1922 Park, John, jun., Gilston, Polmont  
1920 Park, William, Bankend, Denny

Admitted

- 1921 Parker, H. J., Drummerchen, Kippen  
1921 Parlane, William, Offerance, Buchlyvie  
1920 Paterson, Alex. B., Claylands, Balfrou  
1917 Paterson, George, Wester Frew, Kippen Station  
1919 Paterson, James, Powblack, Kippen Station  
1919 Paterson, John, Woodend, Balfrou  
1921 Paterson, John R., Southfield, Kippen Station  
1919 Paterson, John Robb, Bield, Gargun-nock  
1921 Paterson, Mrs. Laighparks, Killearn  
1921 Paton, D., Glenside, Pleau, Bannock-burn  
1909 Paul, David, Haughs of Airth, Both-kennar, Larbert  
1895 Peareth, John Lennox, Lennox Castle, Campsie Glen, Stirlingshire  
1909 Peat, William, Manor Farm, Stirling  
1921 Peattie, H. W., North Third, Cambus-barron, Stirling  
1920 Petrie, Alexander, Airth Station, by Larbert  
1887 Pullar, Edmund, Westerton House, Bridge of Allan  
1921 Ramsay, Alex., Bolfornought, Stirling  
1897 Reid, Robert M., The Glen Farm, Falkirk  
1908 Reid, Thomas L., Royal Bank of Scot-land, Stirling  
1919 Reid, William K., Netherton, Bridge of Allan  
1919 Retson, George, Gartincaber, Buchanan, Drymen  
1913 Reynard, James Napier, Manuel House, Linlithgow (Stirlingshire)  
1921 Richardson, Francis, Blairfoukie, Stirling  
1920 Riddick, Jack, Argyll Avenue, Stirling  
1909 Risk, James, Gowstane, Buchlyvie  
1900 Risk, John, Cailton, Stirling  
1900 Risk, John, Culmore, Kippen  
1922 Risk, Robert C. M. (The Carse Forage Co., Ltd.), Old Burgh Buildings, King Street, Stirling  
1920 Ritchie, William, Millfield, Polmont  
1909 Robb, Henry, 11 Barnton Street, Stirling  
1901 Robertson, Alexander, Estate Office, Polmaise, Stirling  
1908 Robertson, Dan., The Brewery, Falkirk  
1921 Robertson, Duncan Irvine, Glenelm, Stirling  
1889 Rodger, James, Rochdale Lodge, Aber-cromby Drive, Bridge of Allan  
1910 Rowan, George Francis Connal, of Meiklewood, Stirling  
1914 Roy, John, Reddoch, Grangemouth  
1919 Russell, James P., South Bardowie, Milngavie  
1873 Sands, James, Greenfoot, Gargun-nock  
1921 Scott, David, Bellfield, Stirling  
1892 Scott, David, 19 Abercromby Place, Stirling  
1921 Scott, Robert, Drumdrills Farm, Bridge of Allan  
1919 Scott, Robert, The Orchard, Bridge of Allan  
1884 Scott, Thomas, South Woodend, Castle-cary Station, Glasgow  
1923 Semple, Alexander, Househill Farm, Larbert  
1923 Semple, Andrew, Househill Farm, Larbert

**Admitted**

- 1923 Semple, Thomas, Colbeg Farm, Balmore, Stirling  
 1921 Shanks, James, Mydub, Denny  
 1920 Sharp, William, Hillside of Keir, Dunblane  
 1913 Smith, Adam, Lochlands, Larbert  
 1923 Smith, George, Hotelkeeper, Crown Hotel, Airth, Larbert  
 1893 Smith, James Kemp (Messrs Kemp & Nicholson), Stirling  
 1915 Smith, John C., Cockspow Farm, Stirling  
 1921 Smith, Watt J., Cockspow Farm, Stirling  
 1909 Steel, John, Westerton of Cowie Farm, Bannockburn  
 1922 Steel, John, Ballaird, Balfcon  
 1902 STEEL-MAITLAND, Sir A. D., of Sauchie, Bart., M.P., Stirling (72 Cadogan Square, London, S.W.)  
 1921 Stevenson, Alexander, Belmont, Polmont  
 1882 Stevenson, John, Gateside, Kilsyth  
 1920 Stevenson, Thomas, 15 Fifth Place, Stirling  
 1919 Stevenson, William, Beechcroft, Stirling  
 1922 Stewart, Andrew, Cashley, Buchlyvie  
 1919 Stewart, James, Cashley, Buchlyvie  
 1919 Stewart, Robert Russell, Craigielea, Milngavie  
 1915 Stirling, James, Moss Grove, Bridge of Allan  
 1905 Stirling, Commander G. H. Millar, of Craigharnet, R.N., Campsie Glen  
 1921 Strang, James, Stuarthall, Stirling  
 1909 Strang, William, Avonbank, Polmont  
 1923 Sutherland, Miss M. E., Organiser S.F.S.U., Queensgate, Stirling  
 1920 Sutherland, William G., Stonehouse Farm, Bothkennar  
 1915 Tait, W. W., Bowtrees, Falkirk  
 1920 Taylor, James Henderson, Spirit Merchant, 2 Williamfield Avenue, Stirling  
 1907 Taylor, Joseph B., Woodend Farm, Kilsyth  
 1921 Taylor, William, Inveravon Farm, Polmont  
 1879 Thomson, James, Coach Works, Stirling  
 1913 Thomson, John, Muirhead, Killearn  
 1921 Thomson, John, Nyaad, Stirling  
 1906 Thomson, John James, Myrehead, Manuel, Linlithgow  
 1897 Thomson, Robert, Viewforth, Bannockburn  
 1919 Thomson, Thomas, Manorneuk, Stirling  
 1921 Thomson, William, Estates Office, Polmaise, Stirling  
 1922 Thomson, W. J., Craigbrack, Blane-field  
 1904 Thornley, Thomas, Garthill, Falkirk  
 1921 Tod, James, Netherby, Stirling

**Admitted**

- 1915 Tod, John, Netherby, Stirling  
 1921 Tod, James, Blackdub Farm, Bridge of Allan  
 1920 Torrance, Andrew, Brierglass, Polmont  
 1920 Torrance, John, Netherwood, Bonnybridge  
 1922 Towers, James, "Willowbank," Larbert  
 1921 Turnbull, Hugh S., Lilliards, Bridge of Allan  
 1921 Turnbull, Robert, Thirladene, Bridge of Allan  
 1875 Ure, George R., Hope Park, Bonnybridge  
 1922 Waddell, William (The Carse Forage Co., Ltd.), Old Burgh Buildings, King Street, Stirling  
 1921 Walker, Archibald, 18 Abbey Road, Stirling  
 1921 Walker, Robert, Wester Carmuir, Larbert  
 1898 Wallace, T. Douglas, Callendar Estate Office, Falkirk  
 1903 Walls, James, Muirton, Stirling  
 1921 Walls, John, Kerse Mills, Stirling  
 1873 Walls, Robert, Kerse Mills, Stirling  
 1909 Wardlaw, A. M., Solicitor, Bridge of Allan  
 1922 Watt, Archibald, jun., Whitehouse Farm, Carse, Stirling  
 1907 Waugh, James, Avon Grain Mills, Avonbridge  
 1919 Weir, Archibald, Pleanbank, Plean, Stirling  
 1920 Weir, James, Whitelees, Buchlyvie  
 1921 Westcott, William S., Castle View, The Abbey, Stirling  
 1919 Whyte, William, Grain Merchant, 7 Craigs, Stirling  
 1920 Whyte, William H., Avonhill House, Avonbridge  
 1923 Wilson, Alec, 10 Pitt Terrace, Stirling  
 1919 Wilson, Archibald, Carbeth, Killearn  
 1881 WILSON, Sir David, of Carbeth, Bart., D.Sc., Killearn — *Treasurer of the Society*  
 1919 Wilson, John, Westmains, Falkirk  
 1919 Wilson, J. M. H., Carbeth, Killearn  
 1919 Wilson, T. G., Carbeth, Killearn  
 1881 Wilson, Major William, 7 Park Place, Stirling  
 1891 Wilson, William Ralph, Hill Park, Bannockburn  
 1909 Young, Alexander, Craigview, Causewayhead, Stirling  
 1920 Young, John, Cobblebrae, Larbert  
 1921 Young, John, 11 Clarendon Place, Stirling  
 1921 Young, Robert, Carat Farm, Stirling  
 1921 Young, Thomas, 11 Clarendon Place, Stirling  
 1879 YOUNGER, Sir George, of Leckie, Bart., M.P., Gargunnoch  
 1896 Yuille, Andrew B., Bellevue, Bridge of Allan

NUMBER OF MEMBERS, 872.

## 4.—EDINBURGH DIVISION.

## EMBRACING THE

## COUNTIES OF EDINBURGH, EAST LoTHIAN, AND WEST LoTHIAN.

## EDINBURGH.

## Admitted

- 1920 Adair, John Downie, 93 Comely Bank Avenue  
 1910 Aikman, James Sutherland, Dunard, Grange Loan  
 1901 Ainslie, James, 38 Murrayfield Avenue  
 1899 Ainslie, Robert, Conservative Club, Princes Street  
 1899 Aitken, Alfred N. G., S.S.C., 37 Queen Street  
 1908 Alexander, Wm., Prestonhall Estate Office, Ford  
 1908 Allison, John, Buccleuch Street, Dalkeith  
 1899 Allison, John P., D'Arcy, Dalkeith  
 1899 Allison, Robert Barclay, W.S., 11 South Learmonth Gardens  
 1919 Allison, Thomas (Messrs Peter Lawson & Son, Ltd.), 1A George IV. Bridge  
 1906 Allan, John, 28 Constitution Street, Leith  
 1892 Allan, Thomas, Clifton, Corstorphine  
 1899 Allan, William, Erlington, Kaimes Road, Corstorphine  
 1919 Allison, Alexander, North Gyle, Corstorphine  
 1899 Allison, R., Campend, Dalkeith  
 1919 Allison, Robert, jun., Norton Mains, Ratho  
 1918 Allison, William, Campend, Dalkeith  
 1915 Allison, William, Redheughs, Corstorphine  
 1914 Alston, David, Heriot Mill, Heriot  
 1902 Amour, James, Cramond Bridge  
 1919 Amour, John, Pinkiehill, Musselburgh  
 1919 Anderson, A. D., Morton Mains, Colinton  
 1919 Anderson, David, 6 West Castle Road  
 1859 Anderson, G. B., Hillfoot, Murrayfield  
 1918 Anderson, James, East Langton, Mid-Calder  
 1884 Anderson, J. R., W.S., 52 Palmerston Place  
 1884 Anderson, R. K., 377 High Street  
 1881 Anderson, W. M., 3 Ravelston Park  
 1899 Anderson, W. W., Colstun, Kirknewton  
 1900 Archibald, Adam, Overahels, Stow  
 1900 Armstrong, John, 44 Balgreen Avenue, Murrayfield  
 1900 Arnott, F. R., *last known address*, 10 Murrayfield Road  
 1899 Ash, F. C., *last known address*, Alderstone, West Calder  
 1894 Babington, William, W.S., 110 George Street  
 1902 Baillie, John, Rosebank, Currie  
 1914 Baillie, John D. S., Ransfield, Ratho  
 1919 Bain, George, Cairnie Farm, Musselburgh

## Admitted

- 1887 Bain, W. P. C., 6 Wester Coates Gardens  
 1894 Baird, Archibald, M.R.C.V.S., 40 York Place  
 1922 Baird, Archibald William, Veterinary Surgeon, 40 York Place, Edinburgh  
 1915 Baird, Hugh, Charterhall Road Nurseries, Edinburgh  
 1919 Baird, John L. (Yorkshire Insurance Co., Ltd.), 1 Castle Street  
 1920 Baird, William, Engineer, Lasswade  
 1907 Ballach, Alex., Implement Works, Manderston Street, Leith  
 1920 Banks, John, 14 Royal Park Terrace  
 1919 Barrie, James, Broompark, Mid-Calder  
 1919 Barton, James R., Estate Factor, 3 Coates Crescent  
 1901 Bathgate, William Thomson, Middleton Lime Works, Gorebridge  
 1919 Bauer, E. F., Wheatfield, Craigentinny  
 1910 Bayne-Jardine, T. E., Inspector, Ministry of Agriculture (8 Drummond Place)  
 1878 Beattie, W. J. P., *last known address*, Edinburgh Hydro, Slateford  
 1882 Belfrage, A. J., Durham House, Portobello  
 1895 Bell, David, Mervue, Ferry Road  
 1893 Bertram, George William, 12 Corrennie Gardens  
 1883 Bertram, Hugh, *last known address*, Edinburgh  
 1921 Best, Harrower, c/o John Best, Warriston House, Edinburgh  
 1907 Binnie, Alex., 1 Orwell Terrace  
 1914 Bishop, James, Blackhall, West Calder  
 1920 Bisset, Norman, M.R.C.V.S., Royal (Dick) Veterinary College, Summerhall Square  
 1919 Black, Finlay (Surveyor B.O.A.S.), York Building, Queen Street  
 1921 Blackburn, Major Thomas, O.B.E., Edinburgh and East of Scotland College of Agriculture, 18 George Square, Edinburgh  
 1899 Blackwood, George W., Gogar Mount, Ratho Station  
 1899 Blackwood, James Hugh, Gogar Mount, Ratho Station (7 Talbot Square, London, W.)  
 1900 Blair, Alexander, 9 Wemyss Place  
 1919 Blair, Archibald, 28 Charlotte Square  
 1915 Blyth, George F., Craigentinny, Edinburgh  
 1907 Borthwick, A. W., 25 Drumshugh Gardens  
 1858 Borthwick, W. H., Crookston House, Heriot  
 1911 Bowden, William, 68 Ferry Road, Leith  
 1919 Boyd, Archibald Nimmo, Broomhouse, Corstorphine

## Admitted

- 1911 Bradley, O. Charnock, M.R.C.V.S.,  
M.D., D.Sc., Principal Royal (Dick)  
Veterinary College, Summerhall Square
- 1903 Brash, James, The Bungalow, Kirk  
Road, Corstorphine
- 1918 Brookley, Robert J. M., Gourlaw, Rose-  
well
- 1909 Brodie, John, Bucks Head, Dalkeith
- 1919 Brooks, Alexander Kemp, St Ena,  
Gorgie
- 1919 Brooks, Andrew B., Balgreen Avenue,  
Pinkhill
- 1868 Brown, Adam, 2 Arboretum Road
- 1907 Brown, John, Leawood, Corstorphine
- 1920 Brown, Richard, Hillhouse, Kirknew-  
ton
- 1892 Brown, Robert, Hillhouse, Kirknew-  
ton
- 1920 Brown, Colonel Thomas L., 28 York  
Place
- 1882 Brown, William, Currievale, Currie
- 1922 Brown, W. Slater, C.A., 45 Queen  
Street, Edinburgh
- 1885 Brownlee, George, Longthorn, Dal-  
keith
- 1914 Bruce, Patrick Chalmers, Baddensgill,  
West Linton (Kinleith, Currie)
- 1888\*†BUCCLEUCH and QUEENSBERRY, The  
Duke of, Dalkeith House, Dalkeith
- 1902 Buchan, Andrew, East Ingliston, Ratho  
Station
- 1902 Buchan, Robert, Bonnington Farm,  
Wilkieston
- 1919 Buchan, Robert, Bonnington, Kirknew-  
ton
- 1900 Buchan, William, 6 Cluny Gardens
- 1892 Buchanan, Charles, Factor, Penicuik
- 1899 Buchanan, James R., Adambrae, Mid-  
Calder
- 1894 Buchanan, Robert, Livingston Mill,  
Livingston, Mid-Calder
- 1919 Burnett, George, 29 Mansionhouse Road
- 1911 Burns, Robert Hutchison, Hatton  
Mains, Kirknewton
- 1904 Buttar, Alexander, Inland Revenue Val-  
uation Dept., 45 Hanover Street
- 1906 Byres, William, Baadamill, West Calder
- 1912 Cale, J. M., M.A., B.Sc., 1 St Alban's  
Road
- 1891 Cairns, T. M., *last known address*, Scots-  
man Buildings, Edinburgh
- 1887 Cairns, William, 4 Polwarth Terrace
- 1915 Callander, A. D. (Board of Agriculture  
for Scotland), York Buildings, Queen  
Street
- 1887 Callander, Henry, of Preston Hall, Dal-  
keith
- 1919 Cameron, A. K., M.R.C.V.S., 18 March-  
hall Crescent
- 1918 Cameron, Alex. M., B.Sc., Beechleigh,  
Leawade
- 1920 Cameron, John, *last known address*,  
Master Causewayend, Kirknewton,  
Mid-Lothian
- 1920 Campbell, Miss Agnes, Board of Agri-  
culture for Scotland, York Buildings,  
Queen Street
- 1889 Campbell, George, W.S., 21 Alva Street
- 1919 Campbell, Hugh Brash, Illieston, Mid-  
Calder
- 1922 Campbell, Ian, 12 Drummond Place,  
Edinburgh
- 1875†CAMPSHILL, Sir James, LL.D., 14 Douglas  
Crescent
- 1895 Campbell, James, Illieston, Mid-Calder
- 1922 Campbell, J. D. E., W.S., 25 Ainslie  
Place, Edinburgh
- 1905 Campbell, P. P., 20 Rutland Square
- 1904 Campbell, W. J., Marchiston Park
- 1904 Canch, T. B., 8 Greenbank Crescent

## Admitted

- 1919 Cape, John, Surveyor, Board of Agri-  
culture for Scotland, York Buildings,  
Queen Street
- 1889 Carfrae, George Somervell, C.E., 1  
Erskine Place
- 1919 Carnegie, William, Glenesk Crescent,  
Dalkeith
- 1905 Carnegie, William, 42 St Andrew  
Square
- 1918 Carrie, George, 1 Ashley Terrace
- 1915 Carruth, Allan, York Buildings, Queen  
Street
- 1869 Carswell, David, 89 Comiston Drive
- 1922 Cathie, W. D., 10 Perth Street, Edin-  
burgh
- 1920 Cessford, James, Bonnington, Kirk-  
newton
- 1915 Chalmers, Charles, 65 Clerk Street
- 1919 Chalmers, Francis, W.S., 5 Albany  
Place
- 1881 Chirnside, John, *last known address*, 48  
Albany Street
- 1901 Christie, H. Duncan, 35 Mayfield  
Gardens
- 1899 Clark, John, S.S.C., 16 Drummond  
Place
- 1905 Clark, William W., Blackhope, Heriot
- 1895 Clay, Alexander Thomson, W.S., 18  
South Learmonth Gardens
- 1905 Cleghorn, James, Craigour, Gilmerton
- 1920 Cleghorn, Thomas, Craigour Farm, Gil-  
merton
- 1923 Cochran, George, 1 Albany Street,  
Edinburgh
- 1894 CONNELL, Sir Isaac, Secretary, Chamber  
of Agriculture, 12 Duke Street
- 1882 Cook, Sir Henry, W.S., 61 Castle  
Street
- 1892 Cook, James, Arncliffe, Gorebridge
- 1910 Cook, John, W.S., 61 Castle Street
- 1885 Cook, William Home, C.A., 42 Castle  
Street—*Auditor to the Society*
- 1919 Cossar, Charles, Heriotown, Heriot
- 1910 Cowan, Alexander, of Loganhouse,  
Valleyfield, Penicuik
- 1919 Cowan, A. Comrie, Valleyfield, Peni-  
culk
- 1914 Cowan, Francis, Wester Lea, Murray-  
field
- 1899 Cowan, James, 2 Gilmour Road
- 1879 Cowan, John, W.S., 31 Charlotte Square
- 1879 Cowan, Sir John, 2 St Andrew Square
- 1906 Cowan, Kenneth, 14 Greenhill Place
- 1919 Cowan, Ronald C., Valleyfield, Peni-  
culk
- 1902 Cowper, John E. B., Gogar House, Cor-  
storphine
- 1919 Cowper, MacKnight C., Gogar Mains,  
Corstorphine
- 1896 Crabbe, George, of Blairhoyle, 8 Rothe-  
say Terrace
- 1868 CRAIG, The Hon. R. (c/o A. Craig, 28  
Fountainhall Road)
- 1897 Craig, William Cumming, 9 Learmonth  
Terrace
- 1921 Crew, F. A. E., M.B., Institute of  
Research in Animal-breeding, High  
School Yards, Edinburgh
- 1894 Crichton, David, *last known address*,  
89 Princes Street
- 1923 Crichton, John, Glebe Farm, Mid-  
Calder
- 1899 Croall, James Taylor, Castle Terrace
- 1899 Croall, Robert Douglas, Castle Terrace
- 1923 Cross, Alexander Robertson, Solicitor,  
18 Moray Place, Edinburgh
- 1900 Cross, Robert, 13 Moray Place
- 1911 Crutickshank, Captain W. J. T., c/o  
Messrs Knight, Frank, & Rutley, 99  
Princes Street

Admitted

- 1920 Oullen, James, Rosenlain, Blackhall  
 1919 Cunningham, Andrew, College of Agriculture, 18 George Square, Edinburgh  
 1919 Cunningham, James, Hagbrae, Gorebridge  
 1894 Cunningham, Lawrence, Thornbank, Juniper Green  
 1919 Cunningham, Robert, Hyndland, Corstorphine  
 1884 Cunningham, Robert, 65 Morningside Drive  
 1915 Currie, Hugh K., City Farm, West Calder  
 1919 Currie, William, 20 Duddingston Park, Portobello  
 1920 Outhbertson, William (of Messrs Dobbie & Co.), Matland Lodge, Duddingston  
 1920 Dalziel, George Francis, 66 Queen Street  
 1919 Darbey, Francis Lionel (Board of Agriculture for Scotland), 29 Arden Street  
 1920 Darby, A. W., O.B.E. (The Cardale Motor Engineers), 104 Raeburn Place  
 1904 Darling, Robert, Palmerston Villa, Park Road, Dalkeith  
 1894 Davidson, Alexander, Bankhead House, Balerno  
 1921 Davidson, G. Graham, Veterinary Agricultural Chemist, 13 South Charlotte Street, Edinburgh  
 1912 Davidson, George Spence, Saughton Mains, Corstorphine  
 1877 Davidson, James I., Saughton Mains, Corstorphine  
 1919 Davidson, Lindsay Gordon (Board of Agriculture for Scotland), 13 Northfield Circus  
 1912 Davidson, Thomas (A. Riddell & Co.), 5 Grassmarket  
 1919 Davidson, Thomas William, Bridgend, Craigmillar, Mid-Lothian  
 1894 Davidson, William, 24 Hallhead Road, Craigmillar Park  
 1888 Davidson, W. S., 69a George Street  
 1908 Denholm, A. Scott, 57 Bernard Street, Leith  
 1907 Dick, Adam B., Shewington, Rosewell  
 1899 Dick, John, Parkhead, West Calder  
 1918 Dick, Robert, Turniemoon, West Calder  
 1898 Dick, Thomas, North Lodge, Harburn, West Calder  
 1920 Dickson, Hugh Reid, 53 Pitt Street, Leith  
 1884 Dickson, James, Damhead, Loanhead  
 1878 Dickson, W. T., W.S., 11 Hill Street  
 1919 Donsie, Sir Joseph, S.S.C., 42 Melville Street, Edinburgh  
 1898 Dobbie, Leonard, Ph.D., 6 Wilton Road  
 1920 Dobson, George Inglis, 74 Morningside Road  
 1907 Dobson, William, Kingsknowes, Colinton  
 1919 Dods, Archibald, Polton Farm, Lasswade  
 1921 Doig, John A. (The Saxon Oil Co., Ltd.), 76 Broughton Street  
 1919 Donald, Frank, 188 Constitution Street, Leith  
 1920 Donald, George, The Cottage, Muirleston, West Calder  
 1908 Douglas, Abram, Dalkeith Mills, Dalkeith  
 1921 Douglas, David, Board of Agriculture for Scotland, York Buildings, Queen Street

Admitted

- 1907 Douglas, Loudon McQueen, F.R.S.E., 29 West Savile Terrace  
 1911 Douglas, Thomas (W. J. Robertson & Co., Ltd.), Waverley Oil Works, Fountain Place  
 1881 Drysdale, A. L., 20 George Street  
 1891 Drysdale, John, 5 St Andrew Square  
 1902 Dudgeon, Miss Ada, 15 Grange Road  
 1895 Dudgeon, Alex. H., 15 Grange Road  
 1920 Duff, James, 80 George Street  
 1915 Dun, George P., Gilston, Heriot  
 1919 Dun, James P., Catcune Farm, Gorebridge  
 1923 Duncan, Peter Rankine, Belmont, Dalkeith  
 1920 Duncan, William, 5 Lennox Row  
 1919 Duncan, William Watson (Messrs Drummond Bros.), Leith  
 1911 Dundas, Sir Henry, Bart., M.V.O., Polton House, Lasswade  
 1908 Dundas, Robt. William, 16 St Andrew Square  
 1877 DUMEDIN of Stenton, Lord, 7 Rothesay Terrace  
 1922 Durham, James Alexander Robertson, C.A., 33 Charlotte Square, Edinburgh  
 1910 Dykes, John, Redside, Gorebridge  
 1919 Dymock, Alexander D., Muirhousedykes, West Calder  
 1869 Elliot, A. T., Craigview, Stow  
 1906 Elliot, Thomas, 2 Burgess Terrace  
 1907 Elliot, Walter, Ferniehurst, Stow  
 1903 Elliot, William Irving, Middletown, Stow  
 1898 ELPHINSTONE, Lord, Carberry Tower, Musselburgh  
 1920 Erskine, Allan, South Myre, Craigmillar  
 1922 Erskine, Hugh, South Myre, Craigmillar  
 1916 Fairley, James, 83-91 Leith Street  
 1890 Farmer, A. Douglas, of Kinkell (Windham Club, St James's Square, London, S.W. 1)  
 1899 FINDLAY, Sir John R., 27 Drumsheugh Gardens  
 1920 Finlayson, William, 4 Comely Bank Terrace  
 1919 Fisher, Alastair A. M., 35 Ladysmith Road  
 1919 Fleming, Alexander, Pilmuir, Balerno  
 1911 Fleming, Charles, 7 Macdonald Road  
 1919 Fleming, J., 8 Montpelier Terrace  
 1893 Fleming, John, Coates, Penicuik  
 1919 Fleming, Robert D., Pilmuir, Balerno  
 1919 Fleming, William, Pilmuir, Balerno  
 1896 Fletcher, Grant, 4 Forras Street  
 1905 Forbes, Alexander, 33 Spottiswoode Street  
 1878 Ford, G., Saughton Hall Mains, Gorgie  
 1871 Forgan, Andrew, 53 Claremont Street  
 1919 Forrest, Andrew C., Meadowhouse, Murrayfield  
 1919 Forrest, George, North Clermiston, Davidson's Mains  
 1907 Forrest, James, Meadowhouse, Murrayfield  
 1923 Forsyth, James, Jun., Symington Farm, Stow  
 1920 Fraser, Alexander, 17 Hillview, Blackhall  
 1915 French, William, Blacksmith, Invercask  
 1919 Fyall, James, 90 Murrayfield Gardens  
 1918 Galloway, John G., 7 Stirling Road  
 1894 Gardner, Adam, Melville Grange, Gilmerton  
 1919 Gardner, Andrew Marshall, 189 Dalkeith Road



## Admitted

- 1919 Gardner, Robert M., Dalhousie Mains, Dalkeith  
 1877 Gardner, William, Roddinglaw, Currie  
 1919 Garvie, Samuel (Board of Agriculture for Scotland), York Buildings, Queen Street  
 1920 Gavin, Robert Duncan (Gavin Bros. & Galloway), 24 Bernard Street, Leith  
 1920 Gemmel, George H., 4 Lindsay Place  
 1919 Gibson, George (Messrs R. F. Bell & Son), 49 West Bowling Green Street, Leith  
 1889 Gibson, Thos., East Merchiston Villa, 4 Colinton Road  
 1895 Gibson, Thomas R., Bainfield, 94 Polwarth Terrace  
 1922 Gibson, William N., Lauriston Farm, Davidson's Mains  
 1901 Gifford, Thomas, The Briggs, Kirkliston  
 1896 Gilbert, T. Johnson, 15 Warriston Crescent  
 1914 Gilchrist, Thomas, Cauldcoats, Portobello  
 1899 Gillespie, Alexander L., 1 Denham Green Avenue, Trinity  
 1899 Gillespie, William, 8 Craighall Terrace, Musselburgh  
 1921 Gillies, N. (Messrs Gillies & Henderson), 59 Broad Street, Edinburgh  
 1904 Gillon, Andrew, 13 Royal Terrace  
 1890 Gilmour, General R. Gordon, O.V.O., C.B., D.S.O., of Craigmillar, The Inch, Liberton  
 1919 Gladstone, John, Edgelaw, Gorebridge  
 1896 Glendinning, Patrick B., 6 Oxford Terrace  
 1908 Gofton, Prof. Arthur, Veterinary Department, Johnston Terrace  
 1922 Gordon, J. Evans, B.Sc., Lecturer in Agriculture, Edinburgh and East of Scotland College of Agriculture, 13 George Square, Edinburgh  
 1920 Gowans, John Stuart, C.A., J.P., 33 Charlotte Square  
 1902 Graham, George W., last known address, 13 Woodhall Terrace, Juniper Green  
 1905 Graham, James, Windlestrawlee Farm, Ferry Road, Edinburgh  
 1915 Graham, Robert, Crosshouse, Milton Bridge  
 1910 Grant, Edward John Robertson, Tarn-dune, Colinton Road  
 1884 Gray, James, Harperrigg, Kirknewton  
 1899 Gray, James L., Elginhaugh Mills, Dalkeith  
 1907 Gray, John R., Niddrie Mains, Craigmillar  
 1899 Gray, William, last known address, Braehead, Cramond  
 1921 Greig, Professor J. R., Royal (Dick) Veterinary College, Summerhall Square, Edinburgh  
 1892 Grieve, Sir R. B., LL.D., M.C., Board of Agriculture for Scotland, York Buildings, Queen Street—Free Life Member  
 1877 Greig, R. M., 9 Hermitage Drive  
 1889 Grey, John Edward, M.R.C.V.S., 20 Lauriston Place  
 1897 Grieve, R. W., 34 Polwarth Terrace  
 1899 Grieve, William O., Kirklands, 4 Cluny Gardens  
 1907 Guest, Edward Graham, 5 Newbattle Terrace  
 1898 Guild, Alexander, W.S., 5 Rutland Square  
 1874 Guild, James L., 71 George Street  
 1921 Gunn, Alexander, Fairhaven, Colinton

## Admitted

- 1921 Gunn, Roy Hamilton, 12 Downie Terrace, Murrayfield  
 1899 Haldane, Francis G., W.S., 4 North Charlotte Street  
 1919 Hamilton, Andrew, Easter Currie, Currie  
 1919 Hamilton, Gavin, Easter Currie, Currie  
 1908 Hamilton, George, Newyearfield Farm, Mid-Calder  
 1919 Hamilton, James, Cockburn, Balerno  
 1919 Hamilton, James, Herbertshaw, Penicuik  
 1905 Hamilton, James, Old Liston, Ratho  
 1922 Hamilton, James, jun., Old Liston, Ratho  
 1915 Hamilton, John, Greenlaw Mains, Glen-corse  
 1915 Hamilton, John, Whitecraig, Musselburgh  
 1919 Hamilton, J. A., 18 George Street  
 1906 Hamilton, William H., of Cairns, Kirknewton  
 1919 Hanton, John, White Hart Street, Dalkeith  
 1905 Harding-Edgar, George (of Linplum, Haddington), 9 George IV. Bridge  
 1878 Hare, Colonel, Calder Hall, Mid-Calder  
 1919 Hargreaves, Robert, jun., House o' Muir Farm, Milton Bridge  
 1919 Hargreaves, William, House o' Muir, Milton Bridge  
 1919 Harper, Thomas, Fordel, Dalkeith  
 1871 Harper, William, Sheriffhall Mains, Dalkeith  
 1920 Hastie, James, 57 Morrison Street  
 1921 Havery, William, 15 Moat Place, Edinburgh  
 1898 Henderson, Allan M., 26 Rutland Square  
 1921 Henderson, D. (Messrs Gillies & Henderson), 59 Broad Street, Edinburgh  
 1885 Henderson, George, 4 Corrennie Gardens  
 1914 Henderson, James, The Craigs, Mid-Calder  
 1919 Henderson, James, 22 East Mayfield  
 1876 Henderson, John Milne, 15 Merchiston Park  
 1899 Henderson, Robert, Craigie, Cramond Bridge  
 1902 Herdman, John, Southwood, Murrayfield Road  
 1899 Herdman, Thomas A., Southside, Gorebridge  
 1908 Hill, Ernest G., c/o Macandrew, Murray, & Wright, W.S., 9 Albion Place  
 1919 Hogg, George Herdman, Oxenford Mains, Dalkeith  
 1876 Hogg, Robert, 49 Falcon Avenue  
 1918 Hogg, Robert, potato merchant, Dalkeith  
 1880 Hogg, Thomas, Oxenford Mains, Dalkeith  
 1886 Honeyman, Thomas, Levenhall House, Musselburgh  
 1907 Hood, James A., Midfield, Lasswade  
 1919 Horz, Lieut.-Col. Sir John A., Bart., of Craighall, Finkle, Musselburgh  
 1919 Horn, Alexander (Board of Agriculture), York Buildings, Queen Street  
 1919 Horburgh, Thomas, Melville Mains, Lasswade  
 1908 Howat, James, Harrysmuir, Mid-Calder  
 1907 Howden, John M., C.A., 8 York Place  
 1920 Hunter, Charles, Murrayfield Mills, Murrayfield  
 1908 Hunter, Frank, W.S., 7 York Place  
 1898 Hunter, John, The Bow, Stow  
 1920 Hunter, John, Blacksmith, Roslin

## Admitted

- 1930 Hunter, John (Messrs Boyd, Finlay, & Co.), 36 Salamander Street, Leith  
 1919 Hyalop, Birkett Andrew (Board of Agriculture for Scotland), The Lilacs, Milton Road, Joppa  
 1919 Inch, John (Messrs R. Inch & Son), 46 Timber Bush, Leith  
 1919 Inch, Mark, Comiston Farm, Colinton  
 1869 Inglis, A. W., 80 Abercromby Place  
 1920 Inglis, J. T., 3 Castle Street  
 1902 Inglis, William, Granton House, Edinburgh  
 1898 Irons, George Campbell, *last known address*, 19 Dundas Street  
 1903 Jack, Alexander, Brunstane Mills, Musselburgh  
 1907 Jack, Archibald G., Orichton Mains, Ford, Dalkeith  
 1919 Jack, David, Upper Dean Park, Balerno  
 1907 Jackson, Richard F., Cathpair, Stow  
 1919 Jameson, W. Stamford (Board of Agriculture for Scotland), 64 Inverleith Row  
 1894 Johnston, Lord, 33 Moray Place  
 1919 Johnston, James, New Milton Farm, Milton Bridge  
 1884 Johnston, J. S., Inglewood, Corstorphine  
 1906 Johnstone, James, Seacote, Seafield Avenue, Leith  
 1920 Keddie, William, 24 Market Street  
 1878 Kennedy, Captain J. B., *last known address*, 34 Murrayfield Road  
 1919 Kerr, David Simpson, Springfield Mills, Leith  
 1888 Kerr, George, 6 St Colme Street  
 1920 Kerr, Hugh, J.P. (Eldin Chemical Co.), Allas, Arbuthnot Road, Loanhead  
 1913 Kerr, Hugh R., Springfield Mills, Leith  
 1919 Kerr, Hugh Robert, Springfield Mills, Leith  
 1884 Kerr, John, St Clement's Wells, Musselburgh  
 1914 Kerr, John A. (Joseph Kerr & Sons), 12 William Street  
 1919 Kerr, John, jun., Yorkstone, Gorebridge  
 1919 Kerr, William Simpson, The Murrays, Ormiston  
 1902 Kidd, Alexander, Nether Lennie, Cramond Bridge  
 1903 Kinnear, Norman Boyd, 12 Grosvenor Crescent  
 1902 Knoblauch, Louis, 74 Inverleith Place  
 1922 Knox, M. Allan, University Union, Edinburgh  
 1912 Laing, John, Whitehill, Wilkieston, Mid-Calder  
 1919 Lambie, Andrew, Pomathorn, Penicuik  
 1920 Landsborough, David G., c/o R. Inch & Son, 46 Timber Bush, Leith  
 1920 Larnach, Albert Manson, 35 Cambridge Avenue  
 1905 Lauder, Alexander, D.Sc., F.I.C., 13 George Square  
 1905 Lauder, Andrew S., West Mills, Colinton  
 1919 Lawrie, Alfred Ainslie, 4 St Andrew Square  
 1907 Lawrie, James, Loanhead Farm, Ford, Dalkeith  
 1899 Lawrie, Thomas, Drylaw, Davidson's Mains  
 1915 Lawson, George A., 34 Garscube Terrace, Murrayfield  
 1919 Leask, Alfred James, 35 Morningside Park  
 1907 Leggett, R. Lindsay, 2 Ravelstone Terrace

## Admitted

- 1905 Lewis, John, Saughton Mills, Edinburgh  
 1914 Lindsay, Argyll, Clifton Hall, Ratho  
 1919 Lindsay, G. R. P., 7 Belgrave Road, Corstorphine  
 1878 Lindsay, John V., 26 Murrayfield Avenue  
 1920 Linton, Professor R. G., M.R.C.V.S., Royal (Dick) Veterinary College, Summerhall Square  
 1914 Livingstone, Archibald M.D., 12 Forth Street  
 1919 Logan, Daniel, Lugate, Stow, Mid-Lothian  
 1898 Logan, Robt. John, 56 Palmerston Place  
 1899 Logan, William, Easter Kinleith, Currie  
 1912 Lorimer, H. D., c/o Bank of Scotland, West Linton  
 1898 Lothian, Marquis of, Newbattle Abbey Dalkeith  
 1921 Low, James Gibb, 3 St John's Terrace Corstorphine  
 1918 Lowe, David, Kirk Park, Musselburgh  
 1891 Lowe, W. D., W.S., 66 Queen Street  
 1919 Lowrie, Walter F. (Surveyor B.O.A.S.), York Buildings, Queen Street  
 1884 Lyal, William, 186 Grange Loan  
 1922 Lyon, James, c/o Messrs Dobbie & Co., Limited, Edinburgh  
 1918 M'Arthur, Andrew, Craigrowan, 7 Napier Road  
 1920 M'Brayne, John, South Gilmerton Farm, Gilmerton  
 1910 M'Callum, Alexander, M.A., LL.B., York Buildings, Queen Street  
 1914 M'Cosk, James M., 35 Wardie Road, Trinity  
 1882 M'Cowan, Alexander, 5 Barnton Gardens, Davidson's Mains  
 1908 M'Croftie, Hugh, 144 Newhaven Road, Leith  
 1919 Macdonald, Colin (Board of Agriculture for Scotland), York Buildings, Queen Street  
 1915 Macdonald, D., Harlaw, Balerno  
 1919 M'Donald, Henry (Board of Agriculture for Scotland), 7 Morningside Terrace  
 1918 Macdonald, J., 2 Argyll Place  
 1920 M'Dougal, T. W. H., of Raeshaw, Heriot  
 1918 Macdougall, John, 21 Crawford Road  
 1911 Macdougall, R. Stewart, D.Sc., F.R.S.E., 9 Dryden Place—*Zoologist to the Society*  
 1878 M'Dowall, T. N., Remote, Ford, Mid-Lothian  
 1914 Macfarlane, Malcolm, Pilmuir Farm, Balerno  
 1890 MacGibbon, John, 6 Albert Terrace, Musselburgh  
 1919 M'Gillivray, James, 18 George Square  
 1909 M'Ilwrick, T., 24 Downie Terrace, Murrayfield  
 1905 Mackay, Donald, Scottish Land Courts, 1 Grosvenor Crescent  
 1919 M'Kean, John M., Dalhousie Mains, Dalkeith  
 1907 Mackenzie, Alexander, 19 Greenhill Gardens  
 1897 Mackenzie, Stewart, 36 Shandon Street  
 1910 Mackenzie, William Lyon, 6 Melville Crescent  
 1899 Mackinlay, James, 39 Constitution Street, Leith  
 1905 Mackintosh, Angus (Board of Agriculture for Scotland), York Buildings, Queen Street  
 1920 M'Laren, Peter, Ballencrieff, Longniddry  
 1910 M'Laren, Peter R., Architect and Surveyor, 34 St Andrew Square

## Admitted

- 1920 M'Lean, Cornelius, Caledonia Farm, Juniper Green  
 1918 M'Lean, William Y., 25 Shandon Street  
 1921 MacLellan, George, Redheugh, Gore-bridge  
 1903 M'Lennan, George M., Springfield, Inveresk  
 1920 M'Leod, John, 81 Harrison Road  
 1920 M'Nair, James, Ashgrove, Musselburgh  
 1883 Macpherson, C. E. W., C.A., 6 North St David Street  
 1911 Macrae, Rev. Dun. M., 104 Craiglea Drive  
 1879 MacRitchie, David, 4 Archibald Place  
 1919 Macvicar, Neil, W.S., 71 Hanover Street  
 1883 Madder, J. W., 20 Brunstane Road, Joppa  
 1915 Main, Alexander (Board of Agriculture for Scotland), York Buildings, Queen Street  
 1896 Main, James, Corn Exchange Buildings, Gorgie  
 1922 Mann, Charles O., jun., Wellwood, 2 South Gilliland Road, Edinburgh  
 1919 Mann, J. O. Wallace, Ormiston Farm, Kirknewton  
 1920 Marshall, Frank, 175 Morningside Road  
 1919 Marshall, John Scott, 29 Trinity Road, Leith  
 1920 Marshall, Thomas, Camps, Kirknewton  
 1908 Marshall, William, Humble Farm, Kirknewton  
 1908 Martin, John, Letham, Mid-Calder  
 1920 Mason, James, Starbank Poultry Yard, Leith  
 1886 Massie, W. H., 20 Charlotte Square  
 1907 Mather, James, Ravelston Bank, Blackhall  
 1899 Mather, Matthew, Silverknowes, Davidson's Mains  
 1907 Mather, Matthew, jun., Silverknowes, Davidson's Mains  
 1900 Mathison, William, of Shoestanes, Heriot  
 1922 Maule, Sir Robert, Ashbrook, Edinburgh  
 1899 Maxwell, David, 26 Rutland Street  
 1919 Maxwell, John William, 13 Glengyle Terrace  
 1914 Meikle, Robert, Hardengreen, Dalkeith  
 1911 Meikle, Thomas, Damhead, Loanhead  
 1886 Melville, G. F., 15 Moray Place  
 1919 Menmuir, W. Henry, L.D.S., 3 Lynedoch Place  
 1907 Menzies, Alan L., W.S., Larch Grove, Balerno  
 1920 Menzies, George Denholm, Penicuik Estates Office, Penicuik  
 1920 Menzies, Ian C., Broomhills Farm, Loanhead  
 1892 Menzies, John C., The Rowans, Colinton—*Free Life Member*  
 1885 Menzies, John G., *last known address*, 6 Grosvenor Crescent  
 1899 Mercer, George G., J.P., Southfield, Dalkeith  
 1892 Methuen, John, 21 Rutland Street  
 1922 Middlemass, James Douglas, 48 Braid Avenue, Edinburgh  
 1899 Middleton, John, *last known address*, 48 George Street  
 1922 Millar, Daniel, Pumpherston Farm, Mid-Calder  
 1920 Millar, James, Burnhouse Farm, Kirknewton  
 1919 Millar, James B., Loquharlot, Gore-bridge  
 1898 Millar, John M., 81a Strathearn Road

## Admitted

- 1913 Millar Robert, Loquharlot, Gorebridge  
 1897 Millar, Thomas J., C.A., 30 York Place  
 1919 Miller, Alexander, Easter Bush Farm, Roslin  
 1915 Miller, David, Coxidean, Wilkieston  
 1919 Miller, David, Quality Street Mills, Leith  
 1893 Milligan, J. M., F.F.A., 15 York Place  
 1920 Milligan, Peter, Mill Bank House, Gore-bridge  
 1920 Milligan, Peter, jun., Newbyres House, Gorebridge  
 1913 Milne, Wm. Robertson, W.S. (Tait & Orichton), 41 Northumberland Street  
 1909 Mitchell, Alexander, Rosebery, Gore-bridge—*Free Life Member*  
 1919 Mitchell, John, Anniesville, 6 Trinity Road  
 1920 Mitchell, W.M., M.C., B.Sc., M.R.C.V.S., Royal (Dick) Veterinary College, Summerhall Square  
 1907 Moncur, James L., Oreti, 16 Greenhill Terrace  
 1908 Monteith, Bryden, Tower Mains, Liberton  
 1920 Montgomery, Alexander, 29 Craighouse Terrace  
 1919 Montgomery, James, Overton Farm, Kirknewton  
 1920 Moodie, James R. (Messrs J. R. Moodie & Co.), 44 Constitution Street, Leith  
 1921 More, James A., N.D.A., N.D.D., 10 George Square  
 1919 Morham, Alexander H., Mauldslee, Gore-bridge  
 1919 Morham, James, Buteland, Balerno  
 1908 Morrison, James, 30 Granby Road  
 1923 Morrison, Peter, Board of Agriculture for Scotland, York Buildings, Queen Street, Edinburgh  
 1919 Mortimer, William J. (Board of Agriculture for Scotland), 28 Comely Bank Place  
 1886 Morton, The Earl of, Dalnahoy, Wilkieston  
 1884 Morton, Thomas, James Street, Joppa  
 1919 Muir, James A., Newhouse, Kirknewton  
 1899 Muir, John, Freeland, Ratho  
 1919 Muir, John, jun., Freeland, Ratho  
 1897 Muirhead, James, South Melville, Lasswade  
 1887 Mungle, John T., Commercial Bank, West Calder  
 1905 Munro, Alexander J., 48 Castle Street  
 1904 Munro, Major Alexander R., Hillend, Lothianburn, Colinton  
 1920 Munro, Mrs O. J., 5 Tipperlinn Road  
 1922 Munro, Miss F. Gladys, Hillend, Ratho Station  
 1915 Munro, John (Thomas Munro & Son), 21 Grassmarket  
 1919 Munro, John Culcairn, of Marchbank, Balerno  
 1919 Murdoch, David Dykes, 5 Thistle Street  
 1870 Mure, W. J., New Club, Princes Street  
 1919 Murie, John, Market Gardener, Lady Road  
 1904 Murray, James W., Outerston, Gore-bridge  
 1875 Murray, R. W. E., Blackford House, Blackford Avenue—*Free Life Member*  
 1890 Murray, T. M., W.S., 9 Buckingham Terrace  
 1909 Mylne, James, C.A., 42 Castle Street  
 1890 Mylne, James, W.S., 26 Castle Street  
 1908 Nagel, Franz J., 1a George IV. Bridge  
 1888 Nasmith, Robert T., 2 Ethel Terrace  
 1899 Neasmyth, Dr Thomas Goodall, 48 Canaan Lane

## Admitted

- 1919 Nell, Thomas, Easter Cowden, Dalkeith  
 1909 Neill, Andrew, Thorneycrook, Dalkeith  
 1914 Neilson, George M., Boraston Knowe, Blackhall  
 1919 Newbigin, Miss H. F., Edinburgh and East of Scotland College of Agriculture, 18 George Square  
 1901 Nicholson, Alexander, 23 Luton Place  
 1919 Nicolson, Angus (Board of Agriculture for Scotland), 39 Spottiswoode Street  
 1899 Nisbet, Gavin, Lawfield, Dalkeith  
 1920 Nisbet, J. L., Easter Newton, Kirknewton  
 1913 Noble, Alexander, Carsewell, Penicuik  
 1919 Norrie, John, 8 George Street  
 1920 Ogilvie, Alexander J., 43 Albany Street  
 1914 Ogilvie, J. R., The Moat, Roslin  
 1883 Oliver, James, 2 Hillside Crescent  
 1915 Owens, Adam Beattie, Craigview, Kinnellan Road, Murrayfield  
 1919 Owens, William R., jun., Millburn Tower, Corstorphine  
 1906 Park, Robert, Brunstane, Portobello  
 1876 Paterson, J. T. S., c/o T. S. Paterson & Davidson, W.S., 6 Rutland Square  
 1899 Paterson, Thomas L., c/o Mr Paterson, Hurdengreen, Dalkeith  
 1906 Paterson, William, East Kinleith, Currie  
 1919 Paton, Robert, 22 Nile Grove  
 1890 Patten, Hugh, W.S., 37 Manor Place  
 1880 PAUL, Sir George M., C.S., LL.D., D.K.S., 16 St Andrew Square  
 1920 Peggie, David, Pilton Farm, Davidson's Mains  
 1893 Pender, James, 9 Woodhall Terrace, Juniper Green  
 1914 Pendreigh, James, Catcune House, Gorebridge  
 1905 Pettigrew, James, Bankton, Mid-Calder  
 1920 Philp, James, Elm Bank, Wilkinston, Kirknewton  
 1893 Pitman, A. R. C., W.S., 48 Castle Street  
 1907 Player, James F., M.R.C.V.S., 65 Pitt Street  
 1906 Plenderleith, William, Rosewell Mains, Rosewell  
 1894 Poole, William, J.P., Englewood, Blackhall  
 1918 Potter, Alexander, Wester Hailes, Juniper Green  
 1899 Pretsell, James, 27 Wilton Road  
 1899 Pringle, James, Crichton House, Pathhead, Ford  
 1910 Pringle, Thomas, jun., Temple Farm, Gorebridge  
 1893 Purdie, James G., Lochend  
 1919 Purves, J. M. (Surveyor B.O.A.S.), York Buildings, Queen Street  
 1920 Purves, Thomas, jun., 38 Lee Crescent, Portobello  
 1920 Rae, W. (Messrs Peter Lawson & Son, Ltd.), 1A George IV. Bridge  
 1899 Raeburn, Norman, last known address, 49 Manor Place—Free Life Member  
 1907 Ralph, William, I.S.O., Lisnacree, Corstorphine  
 1902 Ralston, Gavin W., Advocate, last known address, 6 Abercromby Place  
 1912 Ralston, W. A., 40 Heriot Row  
 1921 Ramsay, A. B. Wardlaw, Whitehill, Rosewell  
 1915 Ramsay, J. M. (Board of Agriculture for Scotland), York Buildings, Queen Street  
 1920 Ramsay, Robert, Woolmet Farm, Gilmerton  
 1890 Ramsay, William, of Bowland, Stow

## Admitted

- 1915 Rankin, James, West Mains, West Mains Road  
 1920 Redman, Herbert Cooper, Wool Merchant, 801 Lombard Road, Trinity  
 1919 Reid, David W., c/o Miss Byers, 6 Viewforth Terrace  
 1920 Reid, John T., Luscar Estate Office, 2 St Andrew Square  
 1920 Reis, Louis A., 10 Leith Street  
 1907 Richardson, Henry E. (of Broadshaw, West Calder), 31 Melville Street  
 1920 Richardson, John, 31 Polwarth Gardens  
 1923 Richardson, William R., 31 Polwarth Gardens, Edinburgh  
 1919 Riddell, Andrew, 48 London Street  
 1907 Riddell, John, 5 Grassmarket  
 1898 Ritchie, C., Tyne Lodge, Ford  
 1920 Ritchie, Charles Ronald, W.S., 20 Hill Street  
 1914 Ritchie, David, Longfauth, Pathhead, Ford  
 1893 Ritchie, J. B., 12 St Catherine's Place  
 1915 Ritchie, John F., Castle Law, Milton Bridge  
 1915 Roberts, John, Wester Bonnington, Kirknewton  
 1919 Robertson, George E., Claremont, 3 South Lauder Road  
 1922 Robertson, Herbert W., Waverley Oil Mills, Fountainbridge, Edinburgh  
 1919 Robertson, James, 19 India Street  
 1919 Robertson, James A., 14 Grange Terrace  
 1909 Robertson, James F., C.A., 9 Merchiston Gardens  
 1909 Robertson, John, 53 Netherby Road, Trinity  
 1919 Robertson, Samuel J., Damhead, Gorgie  
 1911 Robertson, W. L., Inspector, Board of Agriculture for Scotland, York Buildings, Queen Street  
 1922 Robertson, Wilson Mathieson, Saughton Mains, Corstorphine  
 1873 Rodgie, Henry, 7 London Street  
 1895 Ronaldson, George, 85 Murrayfield Gardens  
 1918 Ross, Lieut.-Colonel Sir H. Arthur, D.S.O., 5 Carlton Terrace  
 1920 Rosedale, John Lewis, Ph.D., c/o National Bank of Scotland Limited, Blenheim Place  
 1922 Ross, Arthur W., 49 Argyle Crescent, Portobello  
 1872 Ross, Lieut.-Colonel George, 69 Leamington Terrace  
 1907 Ross, James Paul, M.A., W.S., 10 Castle Street  
 1930 Ross, John, W.S., 24 Belgrave Crescent  
 1921 Ross, Robert, Nether Williamston, Mid-Calder  
 1907 Ross, William, 49 Argyll Crescent, Portobello  
 1922 Ross, W. Ralph, 6 Windsor Terrace, Portobello  
 1919 Russell, Alistair S. T., c/o Mrs Graham, 7 Comely Bank Terrace  
 1920 Russell, Minto, 108 West Bow  
 1872 Rutherford, A., Lillrig, 68 Belgrave Road, Corstorphine  
 1919 Sampson, William Brook, 31 Craighouse Terrace  
 1907 Sanderson, George P., Home Farm, Dalkeith Park, Dalkeith  
 1893 Sanford, Major Charles Henry, Beeslack, Milton Bridge  
 1902 Scarlett, James W., Sweethope, Musselburgh  
 1919 Scarlett, Robert L. (O.D.A.), Sweethope, Musselburgh  
 1914 Scarlett, Thomas A., 22 Market Street

## Admitted

- 1888 Scott, Adam, c/o British Linen Bank, Tollcross  
 1886 Scott, Alexander, *last known address*, 66 Netherby Road, Leith  
 1921 Scott, James, Mid Breich Farm, West Calder  
 1901 Scott, J. Elliot, Board of Agriculture, York Buildings, Queen Street  
 1920 Scott, Robert, 194 Gorgie Road  
 1919 Scott, William M., 8 Inverleith Gardens  
 1919 Semple, Andrew, Rosebank, Mid-Calder  
 1896 Sharp, James D., 48 Morningside Park  
 1883 Shaw, James T., 4 Belford Place  
 1921 Shepherd, William, F.S.I., Valuation Department, Edinburgh Counties, 68 Hanover Street, Edinburgh  
 1906 Slime, John, *last known address*, 40 Princes Street  
 1921 Simpson, Sir James, 18 Heriot Row  
 1898 Simpson, Mark F., Duddingston Farm, Portobello  
 1919 Simpson, Thomas H. (Messrs T. & R. Carlyle), 19 Leamington Terrace  
 1914 Simpson, William, Board of Agriculture, York Buildings, Queen Street  
 1914 Sinclair, Alexander Gray, Thorsterville, Blackhall  
 1910 Sloan, Alexander, 43 Cluny Gardens  
 1919 Sloan, Gilbert, Balleny, Balerno  
 1907 Smith, Alexander, Kirkcaldy, Roslin Castle Station  
 1881 Smith, A. Davidson, C.A., 4A York Place  
 1918 Smith, Charles Matland, C.A., 4A York Place  
 1899 Smith, George Gardiner, Linnwood, Mid-Calder  
 1895 Smith, Harry W., W.S., 5 Lynedoch Place  
 1899 Smith, Henry, W.S., 5 South Charlotte Street  
 1920 Smith, Peter, Warriston, Currie  
 1919 Smith, Peter, West Mains, West Calder  
 1920 Smith, Riddle, Logan Brae, Milton Bridge  
 1877 Smith, Robert, 8 Rochester Terrace  
 1901 Smith, Robert, Cranston Riddel, Ford  
 1887 Smith, Thomas A., 44 Cluny Drive  
 1918 Smith, Wilfrid E., N.D.D., 7 Grassmarket  
 1915 Smith, William, Milton Bank, Milton Bridge  
 1899 Smith, William, West Hartwood, West Calder  
 1910 Smith, William Gardner, 13 George Square  
 1919 Snodgrass, Alex. J., Bryans, Dalkeith  
 1899 Snodgrass, Matthew W., Langeside, Dalkeith  
 1898 Sommer, George (Peter Lawson & Son, Limited), 1 George IV. Bridge  
 1908 Sommerville, Robert, Wester Cowden, Dalkeith  
 1919 Speedy, James W., Secretary, Dalkeith Agricultural Society, Braeside, Liberton  
 1909 Stanfield, Professor Richard, Heriot-Watt College, Chambers Street—*Consulting Engineer to the Society*  
 1893 Stark, James, 26 Earl Grey Street  
 1895 Steedman, James, 26 Kingsburgh Road, Murrayfield  
 1919 Steel, James, Cornbank, Penicuik  
 1918 Steele, J. H., 61 Harrison Road  
 1912 Steele, James Torrance, B.Sc. (Board of Agriculture for Scotland), York Buildings, Queen Street  
 1919 Steele, Walter H., 53 Ashley Terrace  
 1920 Stevens, J. Cousin, Secretary, National Farmers' Union (Mid-Lothian Branch), 57 Queen Street

## Admitted

- 1886 Stevenson, David Alan, C.E., 84 George Street  
 1919 Stewart, Duncan (Board of Agriculture for Scotland), York Buildings, Queen Street  
 1881 Stewart, G. M. F., 16 Lansdowne Crescent  
 1916 Stewart, James Cumming, 13 South St Andrew Street  
 1893 Stewart, James R. H., *last known address*, 29 St Andrew Square  
 1915 Stewart, John, Nettleingfat, Heriot  
 1911 Stewart, John, Newton Farm, Millerhill  
 1893 Stewart, John, Saughland, Tynehead  
 1919 Stewart, Robert, Newton Farm, Millerhill, Dalkeith  
 1919 Stewart, Robert, South Gyle, Corstorphine  
 1902 Stewart, Ronald, 16 Garscube Terrace  
 1899 Stewart, W. M., Freugh, Colinton  
 1912 Stirling, John, Secretary, Highland and Agricultural Society, Albertville, Rosehall, Musselburgh  
 1920 Storie, William Stevenson, Board of Agriculture for Scotland, York Buildings, Queen Street  
 1914 Storry, Alexander, of Broomhill, West Calder  
 1919 Stratford, Charles, Eldinhope, Liberton  
 1894 Stuart, William, 18 Traquair Park  
 1906 Stungo, S. S., J.P., 47 Cockburn Street  
 1922 Sulley, Philip, 27 Rutland Square, Edinburgh  
 1889 Sutherland, John D., 11 Inverleith Row  
 1858 Swan, James, 6 Clifton Terrace  
 1885 Syme, David F., C.A., *last known address*, 31 St Andrew Square  
 1906 Tait, William Ferrier, Galaside, Heriot  
 1922 Taylor, John, M.R.O.V.S., 13 Bread Street, Edinburgh  
 1899 Taylor, Thomas W., Seed Merchant, Dalkeith  
 1915 Taylor, William, 60A Constitution Street, Leith (of Messrs Jas. Miller & Sons)  
 1900 Thomson, Andrew, D.Sc., 145 Bruntsfield Place, Edinburgh  
 1895 Thomson, Sir James W., 23 Bernard Street, Leith  
 1899 Thomson, R. J., 2 Wilton Road  
 1921 Thomson, Captain R. J., Kames, West Linton  
 1919 Thomson, Thomas, 24 St Giles' Street  
 1920 Thomson, W. J., Manager, Scottish Motor Traction Co. Ltd., 29 Fountainbridge  
 1919 Thorburn, John, Baads Mill, West Calder  
 1906 Tillie, David, Brothershills, Heriot  
 1902 Tillie, John, Hangingshaw, Heriot  
 1900 Todd, A. Enever, Stoneybank, Musselburgh  
 1919 Todd, James, Pinkie Mains, Musselburgh  
 1877 Torrance, T. A., Annfield, Lasswade  
 1898 Trotter, John, B.Sc., c/o Laing, 128 Nicolson Street—*Free Life Member*  
 1909 Tullo, George (Thornton & Co., Limited), 4 Hanover Street  
 1899 Turnbull, Phipps O., Smeaton, Dalkeith  
 1878 Tweedie, A. G., *last known address*, 50 Blacket Place  
 1901 Urmston, Charles Hanson, W.S., 19 Merchiston Place  
 1903 Usher, Thomas Leslie, 8 Whitehouse Terrace

## Admitted

- 1899 Wakelin, W. J. (Oliver & Son, Limited),  
New Mart Road  
1915 Waldie, Charles, S.S.C., 1 Dean Terrace  
1919 Waldie, John, 35 Hillside Crescent  
1899 Waldie, J. Paterson, Haymarket, Edinburgh  
1919 Waldie, John S. L., 37 Ladysmith Road  
1921 Walker, Douglas Grahame, 12 Greenhill  
Terrace, Edinburgh  
1895 Walker, Graham W., 51 Queen's Avenue,  
Blackhall  
1920 Walker, John, Edinburgh and East of  
Scotland College of Agriculture, 18  
George Square  
1899 Walker, John, 23 Lismore Crescent  
1923 Walker, Robert, Newfarm, Mid-Calder  
1913 Walker, William, Crofthead Farm, West  
Calder  
1907 Wallace, Alexander, 1 North Charlotte  
Street  
1878 Wallace, Professor Robert, 45 East  
Claremont Street—*Free Life Member*  
1900 Warden, John S., 29 Lauriston Gardens  
1919 Warden, Robert, C.D.A., Braidwood,  
Penicuik  
1908 Watherston, Robert H., 4 Ellersby Road,  
Murrayfield  
1919 Watson, Alexander Macdonald, 17 Ard-  
millan Terrace  
1882 Watson, G. G., W.S., 4 Glenfinlas  
Street  
1920 Watson, James, Chalkieside, Dalkeith  
1914 Watson, Professor J. A. S., Agricultural  
Department, University, Edinburgh  
1914 Watt, James, W.S., 28 Charlotte Square  
1922 Watt, James G. (Messrs Philip, Maxwell,  
& Watt), Grain Merchant, Leith (3  
Wellington Street, Portobello)  
1882 Wauchop, Sir J. D. D., of Edmonstone,  
Bart., 41 Moray Place  
1920 Waugh, James, 25 Falcon Avenue  
1915 Weatherill, Charles (Board of Agricul-  
ture for Scotland), York Buildings,  
Queen Street  
1910 Wedderburn, Ernest MacLagan, W.S.,  
2 Glenfinlas Street  
1881 Wedderspoon, George, 2 Blackford Road  
1903 Welsh, Robert, Liberton Mains, Liber-  
ton  
1877 Welwood, J. A. Maconochie, Kirknewton  
House, Kirknewton  
1899 Wemyss, A. W., 3 Arboretum Road  
1901 White, Robert S., Halkerston, Gore-  
bridge  
1899 White, William, Gortonlee, Lasswade  
1921 Whiteley, Ernest Stilling, 34 St Andrew  
Square, Edinburgh  
1884 Whyte, William, 43 Lygon Road  
1902 Wight, A. D. (Wight & Co.), Baltic  
Street, Leith  
1914 Wight, Albert Victor (of Wight & Co.,  
Leith), 16 Murrayfield Gardens  
1898 Wight, George (Wight & Co.), Baltic  
Street, Leith  
1919 Wight, James A., Hill 'o' Stane,  
Gorgie  
1905 Wight, John, Greenpark, Corstorphine  
1919 Wight, John, Hill o' Stane, Gorgie  
1898 Wilkie, Alexander, *last known address*,  
219 Bruntsfield Place  
1919 Wilkie, William, Upper Braids Farm,  
Morningside  
1920 Williams, George, "Dunmore," 1 Sum-  
merdale Street, Leith  
1914 Williamson, Edwin J., 187 George  
Street  
1920 Williamson, William Turner Horace,  
B.Sc., A.I.C., 13 George Square  
1907 Wilson, A. Frank, O.D.A., 164 Braid  
Road—*Free Life Member*

## Admitted

- 1920 Wilson, Charles Brodie, 19 Castle Street  
1919 Wilson, George, Wellington, Millerhill  
1899 Wilson, James, Torrcraik, Gorebridge  
1914 Wilson, John, Swanfield Mills, Leith  
1919 Wilson, Robert H. B., South Cobbin-  
shaw, Cobbinshaw  
1919 Wilson, William M., Swanfield Mills,  
Leith  
1915 Winter, William, Solicitor, 25 India  
Street  
1897 Wishart, D. J. (J. Bisset & Sons, Limited,  
Blairgowrie), 18 Picardy Place  
1917 Wood, Edward Baxter (Tillie, Whyte, &  
Co.), 12 Melbourne Place  
1922 Wood, George, Buckstone Farm, Colinton  
1900 Wood, James, 8 Strathearn Road—*Free  
Life Member*  
1919 Wood, John, East Rig, Balerno  
1922 Wood, Robert, Clapperton Hall Farm,  
Mid-Calder  
1921 Wood, Robert, Corshope, Heriot  
1919 Wood, Thomas Martin, 25 Drumsheugh  
Gardens  
1914 Wylie, David, Wheatlands, Kirkliston  
1905 Wylie, James, 21 Joppa Road, Joppa  
1919 Yerbury, Edward Reuben, 92 Morning-  
side Road  
1911 Yool, William M., 32 Midmar Gardens  
1898 Young, David, 5 Muirend Avenue,  
Juniper Green  
1919 Young, Frank H., Earn Craig, Gillsland  
Road  
1919 Young, George, Albert Cottage, Gorgie  
1902 Young, James, East Craige, Corstor-  
phine  
1887 Young, James B., 10 Blantyre Ter-  
race  
1896 Young, John, Straiton, Loanhead  
1907 Young, John H. J., 200 Morrison  
Street  
1907 Young, Thomas, N.D.A., 13 George  
Square  
1919 Young, Tom H., 5 Grassmarket  
1923 Young, T. M., General Manager, St  
Cuthbert's Co-operative Association,  
Ltd., 92 Fountainbridge, Edinburgh  
1919 Young, Walter, Turnhouse, Cramond  
Bridge  
1906 Young, William Jackson, F.R.C.V.S.,  
D.V.S.M., 39 Leamington Terrace  
1899 Younger, H., of Benmore, Abbey  
Brewery  
1899 Younger, J. A. C., Abbey Brewery  
1915 Younger, John Henderson, 15 Carlton  
Terrace  
1899 Younger, William J., 21 Douglas  
Crescent

## EAST LOTHIAN.

- 1920 Alexander, George Frederick, Greenhead,  
Pencaltland  
1898 Amos, John, *last known address*, Alder-  
ston, Haddington  
1920 Anderson, Captain David, Bourhouse,  
Dunbar  
1914 Andrew, Hugh, Lennoxlove, Hadding-  
ton  
1906 Baird, W. A., Lennoxlove, Haddington  
1863 BALFOUR, Earl, of Whittingehame, K.G.,  
Prestonkirk  
1905 BALLANTYNE, Sir Henry, Monkkrig,  
Haddington  
1919 Banks, Andrew I., Commercial Bank  
House, Haddington

## Admitted

- 1919 Barr, William, Mavishall, Humble  
 1888 Bayley, Isaac F., Halls, Dunbar  
 1898 Beveridge, Charles H., Elphinstone Tower, Tranent  
 1907 Binnie, Thos., *last known address*, Seton Mains, Longniddry  
 1902 Black, George, Penston, Macmerry  
 1919 Black, W. S., Coates, Longniddry  
 1892 Blair, Thomas, Hoprig Mains, Glads-muir  
 1921 Blair, Mrs C., Hoprig Mains, Glads-muir  
 1902 Blyth, Andrew, Tynninghame, Preston-kirk  
 1920 Bone, David R., Meikle, Prestonkirk  
 1907 Bone, Thomas, East Fenton, Drem  
 1919 Bowie, John, Estates Office, Long-niddry  
 1913 Broadfoot, R. M'C., Whitekirk, Preston-kirk  
 1902 Brooks, Andrew, of Kilduff Mains, Drem  
 1898 Brown, William, Templehall, Ormiston  
 1900 Bruce, William, B.Sc., of Seton Mains, Longniddry—*Free Life Member*  
 1918 Butter, Archibald E., Hopes, Gifford  
 1919 Cadzow, David B., Samuelston South Mains, Pencaitland  
 1899 Cairns, John, Waughton, Prestonkirk  
 1919 Caverhill, W. R., Crichness, Duns  
 1916 Christie, Randolph, The Anchorage, Port Seton  
 1919 Clark, Archibald, West Field, Hadding-ton  
 1864 Clark, James, Kirklandhill, Preston-kirk  
 1923 Clark, J. G. D., Luggate, Prestonkirk  
 1880 Clark, Thomas, Oldhamstocks Mains, Cockburnspath  
 1889 Connor, G. A., Craigielaw, Longniddry  
 1886 Courtney, William, Portobello Farm, Tranent  
 1922 Cowe, John, West Garleton, Hadding-ton  
 1920 Croasbie, Thomas, Crown Hotel, East Linton  
 1919 Cruickshank, George, County Clerk, Haddington  
 1922 Cuninghame, J. (of J. Cuninghame & Co.), Court Street, Haddington  
 1922 Cunningham, Howard Usher, Hedder-wick Hill, Dunbar  
 1895 Curr, William Simpson, Ninewar, Pres-tonkirk  
 1911 Dale, John Robert, Scoughall, North Berwick  
 1896 Deans, John H., Pitcoo, Dunbar  
 1905 Durie, John, Greendykes, Macmerry  
 1919 Elder, Hugh, Stevenson, Haddington  
 1890 Elder, James, Athelstaneford Mains, Drem  
 1919 Elder, James H., Athelstaneford Mains, Drem  
 1919 Elder, John Storrie, Stevenson, Had-dington  
 1890 Elder, Thomas, of Stevenson, Hadding-ton  
 1906 Elliot, Walter, Duncrawhill, Pencalt-land  
 1884 Elliot, Walter, Harehead, Oranshaws, Duns (East Lothian)  
 1907 Ferme, John, Riggonhead, Tranent  
 1918 Fletcher, Captain Andrew M. Talbot, of Saltoun Hall, Pencaitland  
 1907 Fortune, James, Seggaredan, Had-dington  
 1914 Fortune, Thomas, Stoneypath Tower, Garvald  
 1919 Fullarton, James S., Bankton, Tranent  
 1899 Fullarton, John, Bankton, Tranent

## Admitted

- 1920 Gardiner, James, Stonelaws, Preston-kirk  
 1919 Gibson, Thomas, Camptoun, Drem  
 1899 Gibson, Walter H., Camptoun, Drem  
 1907 Gifford, John, Inglenauk, East Linton  
 1919 Goughly, William, Whitelaw, Hadding-ton  
 1918 Gray, William, Pinkerton, Dunbar  
 1882 Gray, Lieut.-Colonel W. W., of Nunraw, Prestonkirk  
 1898 Gregor, Charles E., Innerwick, East Lothian  
 1919 Hamilton, Gavin, jun., Adniston, Mac-merry  
 1922 Hamilton, John, Balfour Home Farm, North Berwick  
 1899 Hartley, G. W., Moresby, North Ber-wick  
 1894 Henderson, James, The Knowes, Prestonkirk  
 1898†Harriman, Sir Archibald Buchan-, of Smeaton, Bart., Letham, Hadding-ton  
 1919 Hogg, Adam, Duncanlaw, Gifford  
 1907 Hogg, Robert N., Myles, Tranent  
 1914 Hogg, William, Newlands, Gifford  
 1886 Hope, Harry, Barneyhill, Dunbar  
 1923 Hope, James, Eastbarns, Dunbar  
 1923 Hope, Robert Holmes-Kerr, Oxwellmains, Dunbar  
 1907 Hope, Thomas C., Aikengall, Cock-burnspath  
 1907 Hope, William W., East Linton  
 1907 Inch, Adam, Lempoek Wells, Pencait-land  
 1920 Jeffrey, George, Little Spott, Dunbar  
 1919 Jeffrey, George, South Belton, Dun-bar  
 1899 Jeffrey, James, Deuchrie, Prestonkirk  
 1920 Jeffrey, James C., Buchlaw Mains, Prestonkirk  
 1920 Jeffrey, John, Deuchrie, Prestonkirk  
 1912 Johnston, James, Hillrest, Oldham-stocks, Cockburnspath  
 1919 Kerr, Robert Balfour, Barney Mains, Haddington  
 1885 Kinloch, Sir David A., of Gilmerton, Bart., Drem  
 1898 Kinnaird, Andrew, The Grange, Garvald, Prestonkirk  
 1908 Kinnaird, John, New Mains, Stenton, Prestonkirk  
 1905 Kirk, Thomas, of Abbey Mains, Had-dington  
 1923 Kirk, Mrs Rose, Abbey Mains, Had-dington  
 1919 Law, Andrew, Bankrug, Haddington  
 1865 Leslie, James, Beanston, Haddington  
 1914 Lothian, George, Prora, Drem  
 1919 Lowrie, James, Blegiebeg, Humble  
 1923 M'Arthur, John, Parkview, East Lin-ton  
 1922 M'Call, Alexander, Organiser S.F.S.U., Brown's Place, East Linton  
 1921 Macdonald, Alex., Langside, Preston-kirk  
 1920 M'Donald, John, Easter Windygoul, Tranent  
 1922 M'Gibbon, J. B., Saltoun Estates Office, Pencaitland  
 1920 M'Gregor, George A. H., Meikle Pinker-ton, Dunbar  
 1899 M'Kelvie, William, Parkside, Hadding-ton  
 1919 M'Laren, John T., jun., Saltoun Estate Office, Pencaitland  
 1919 M'Naughtan, Robert, Yeater Estates Office, Gifford  
 1910 M'Nicol, William, Castleton, North Berwick

Admitted

- 1923 Main, James, Saltoun Home Farm, Penciland  
 1919 Malcolm, George Arthur, Whittingehame Mains, Prestonkirk  
 1913 Malcolm, James F., Whittingehame Mains, Prestonkirk  
 1913 Malcolm, W. F., Whittingehame Mains, Prestonkirk  
 1877 Mark, John, Sunnyside, Prestonkirk  
 1899 Mason, William, Amisfield Mains, Haddington  
 1920 Middlemas, Finlay F., Northrig, Haddington  
 1919 Middlemas, William, Teviot Bank, Prestonkirk  
 1914 Miller, Hugh, West Fortune, Drem  
 1914 Miller, Robert, Ferrygate, North Berwick  
 1921 Mitchell, James, jun., Bonnington, North Berwick  
 1910 Mitchell, James, Wamphray, North Berwick  
 1914 Mitchell, T. B., jun., The Retreat, Dunbar  
 1910 Moffat, George, Williamston, North Berwick  
 1915 Morrison, Mark C., Quarryford, Gifford  
 1910 Muirhead, Douglas, Townhead, Gifford  
 1907 Murray, W., Solicitor, Haddington  
 1890 Nisbet, C. O., of Stobahel, Humble  
 1899 Pace, Ferrier, Ormiston Mains, Ormiston  
 1900 Park, John, Setonhill, Longniddry  
 1904 Park, Matthew, Hoprig, Macmerry  
 1907 Park, Thomas B., Haddington  
 1919 Pate, John, Stobahel Mains, Humble  
 1905 Peters, J. S., British Malt Products Co., Dunbar  
 1920 Peggie, James S. T., Tynfield, Dunbar  
 1919 Playfair, John Kirk, Abbey Mains, Haddington  
 1899 Polwarth, Lord, Humble House, Humble, East Lothian  
 1919 Porter, Frederick, Mungoswells, Drem  
 1920 Porter, Frederick H., Cocklaw, Cockburnspath  
 1920 Pringle, William, Brownrigg, North Berwick  
 1919 Rattray, John, Ninewar, Prestonkirk  
 1920 Reid, George, Eaglescairn Mains, Haddington  
 1894 Reid, James, of Tyneholm, Penciland  
 1919 Reid, James S. C., Drem  
 1914 Renwick, Andrew, Byres, Longniddry  
 1912 Renwick, Andrew, Skateraw, Innerwick  
 1898 Riddell, David, West Peaston, Ormiston  
 1919 Rintoul, Robert, Engineer, North Berwick  
 1894 Robertson, John, Beanston Mains, Haddington  
 1909 Robertson, Thomas Sheriff (Thomas Sheriff & Co.), West Barns, Dunbar  
 1919 Robertson, William, Beanston Mains, Haddington  
 1919 Robertson, William, Greenhead, Penciland  
 1919 Rose, J. C., Royal Bank of Scotland, Haddington  
 1905 Rundelman, A., The Glen, Thornton, Innerwick  
 1899 Russell, Charles, West Mains, Haddington  
 1907 Russell, David, Redmains, Penciland  
 1915 Russell, Peter, West Windygoul, Tranent  
 1899 Scott, Joseph G., Congalton, Drem  
 1878 Sharp, John J., Ewingston, Humble—  
*Free Life Member*

Admitted

- 1920 Shepherd, Thomson, Gleghornie, North Berwick  
 1899 Shields, George Bertram, Dolphington, Tranent  
 1922 Shields, Mrs. Dolphington, Tranent  
 1913 Shields, James, Longniddry  
 1899 Shiels, Thomas J., Carfrae, Prestonkirk  
 1908 Shirreff, Charles R., Southfield, Longniddry  
 1921 Simpson, Richard Charles (John Swan & Sons, Ltd.), Haddington  
 1915 Simpson, William D., Newhouse, Dirlinton  
 1919 Slight, Mark, North Mains, Ormiston  
 1882 Smith, E. Hedley, B.L., Whittingehame, Prestonkirk—*Free Life Member*  
 1891 Spence, A. G., Longyester, Gifford  
 1899 Stenhouse, James, Home Farm, Spott, Dunbar  
 1894 Steven, John, Begbie, Haddington  
 1891 Stevens, A. B., Queenstonbank, Dirlinton—*Free Life Member*  
 1919 Stevenson, Allan, Luffness Mains, Aberlady  
 1907 Stewart, James, Pressmennan, Prestonkirk  
 1907 Stewart, John M., Stoneypath, Prestonkirk  
 1918 Stodart, Colonel Charles, of Kingston, North Berwick  
 1905 Stodart, Hugh, Wintonhill, Penciland  
 1922 Stodart, Colonel Thomas, C.I.E., I.M.S., Kingston, North Berwick  
 1921 Strang, Gavin, Boggs, Penciland  
 1907 Tait, John, Nether Hailes, Haddington  
 1884 Thin, John, Upper Keith  
 1921 Thomson, Alexander James, Belmont, Haddington  
 1919 Thomson, Dundas, The Chappel, North Berwick  
 1915 Thomson, John, Estate Overseer, Thurston Home Farm, Innerwick  
 1907 Thomson, John, Wheatrigg Farm, Longniddry  
 1907 Turnbull, Mark J., Tynemount, Ormiston  
 1913 TWEEDDALE, The Marquis of, Yester, Gifford  
 1907 Tweedie, Robert W., of Phantassie, Prestonkirk  
 1896 Usher, Frank James, of Dunglass, Cockburnspath  
 1899 Wallace, Forbes, Hovendene, Prestonkirk  
 1881 Wallace, John, Hailes, Haddington  
 1907 Watson, Robert S., Samuelston, Haddington  
 1919 Watt, David, Carlawerock, Tranent  
 1899 Watt, James William, New Mains, Drem  
 1898 Weddell, John, Snawdon, Gifford  
 1884 Wemyss and March, The Earl of, Gosford, Longniddry  
 1920 Whitelaw, Robert, jun. (of William Dods & Son), Maryville, Haddington  
 1919 Will, T. K., Gifford Bank, Gifford  
 1920 Williamson, J. W., Bank Agent, Haddington  
 1895 Wilson, David, Agricultural Engineer, East Linton, Prestonkirk  
 1899 Wilson, Robert, Sheriffside, Gifford  
 1923 Wolfe, Charles R., Saltoun Barley Mill, Penciland  
 1910 Wright, William, Preston, Prestospanns  
 1893 Wylie, Robert, Hough, North Berwick  
 1907 Wylie, John, Castlemaids, Gifford  
 1877 Young, D. S., 39 Westgate, North Berwick



## WEST LOTHIAN.

## Admitted

- 1899 Alexander, Thomas, Nethermuir, Bathgate  
 1920 Alexander, William, Boundary Street, Bo'ness  
 1896 Allan, Robert, Halfway House, Whitburn—*Free Life Member*  
 1895 Allison, David, Duddingston, South Queensferry  
 1921 Allison, David, jun., Duddingston, South Queensferry  
 1906 Allison, James, Carlowrie, Kirkliston  
 1919 Allison, John M., Overton, Kirkliston  
 1918 Allison, William, New Mains, Kirkliston  
 1914 Anderson, W., M.B., Armadale, West Lothian  
 1906 Arkley, Robert, Kingsfield, Linlithgow  
 1903 Armour, Harry, Niddry Mains, Winchburgh  
 1883 Bartholomew, John, Duntarvie, Winchburgh  
 1906 Bartie, Thomas, Estate Office, Dundas Castle, South Queensferry  
 1922 Baxter, Thomas, Woodbank, Armadale  
 1915 Black, Andrew, Stoneyburn Store, West Lothian  
 1919 Black, John Fleming, Couch Farm, Whitburn, West Lothian (*postal address*, Harthill, Lanarkshire)  
 1899 Borthwick, James, V.S., Kirkliston  
 1907 Bowie, Andrew, Grougfoot, Linlithgow  
 1919 Bowie, John, Kinnell Estate Office, Bo'ness  
 1907 Bowie, William, Lochview, Linlithgow  
 1919 Braes, Andrew, Niddry, Winchburgh  
 1919 Braes, Robert, Listloaning, Linlithgow Bridge  
 1919 Braes, William, Champany, Linlithgow  
 1919 Brechin, Robert, Leckmill, Linlithgow  
 1918 Brown, Robert C., Upper Bonnington, Linlithgow  
 1909 Brown, William, Balderston Farm, Linlithgow  
 1920 Brownlie, Daniel, Brownclair Cottage, Blackridge  
 1919 Brownlie, James, East Whitburn, Whitburn  
 1921 Bryers, John, Drumbeg Farm, Blackridge  
 1911 Cadell, Lieut.-Col. J. M., Indian Medical Service, Foxhall, Kirkliston  
 1895 Cadell, Henry M., of Grange, Linlithgow  
 1900 Cadzow, James, Kilpunt, Broxburn  
 1911 Cadzow, John, Glendevon, Winchburgh  
 1920 Calder, James, Carriden House, near Linlithgow  
 1919 Chapman, William Carlaw, Totley Wells, Winchburgh  
 1899 Clark, John, Pardovan, Philipstoun  
 1921 Cochrane, Archibald, Commercial Bank House, Uphall  
 1904 Cochrane, Archibald, Trinlaymire, Linlithgow  
 1882 Crawford, Alexander, Bo'ness  
 1907 Crawford, James, Cousland, Bathgate  
 1919 Crawford, James, Muirhouses, Linlithgow  
 1919 Crawford, Robert, Bo'mains, Bo'ness  
 1907 Crooke, John T., Little Ochiltree, Linlithgow  
 1919 Cruickshank, John, Farm Manager, Bangour, Uphall  
 1919 Dalgleish, A., East Bonhard, Linlithgow  
 1915 Dalgleish, James, Newbigging Farm, Winchburgh  
 1919 DALMENY, Hon. Lord, Dalmeny House, Edinburgh  
 1921 Dalzell, Miss Nora Wilkie, The Binns, Linlithgow

## Admitted

- 1919 Dandie, David, Dales Farm, Whitburn  
 1919 Dawson, Frank, Drumcross, Bathgate  
 1920 Drake, Robert, Middelrigg, Bathgate  
 1919 Dudgeon, Alexander Neil, Easter Dalmeny, Dalmeny  
 1869 Dudgeon, George, Almondhill, Kirkliston  
 1887 Dudgeon, John G., Easter Dalmeny, Dalmeny  
 1919 Fairlie, Gideon, Butcher and Farmer, South Queensferry  
 1889 Ferrier, William C., *last known address*, Gowanbank, Avonbridge  
 1920 Forrest, William, West Ochiltree, Linlithgow  
 1921 Frame, James, Birdsmill, Broxburn  
 1906 Galbraith, Alexander, Upper Kinnell, Linlithgow  
 1919 Galloway, Thomas, Kirk Hill, Broxburn  
 1920 Gifford, Thomas, jun., The Briggs, Kirkliston  
 1899 Glen, Enoch, Kaim Park, Bathgate  
 1919 Graham, James, Bogend Farm, Blackridge, West Lothian  
 1910 Grant, George, Blackridge, West Lothian  
 1919 Henderson, J. G. B., County Clerk, Linlithgow  
 1913 Hog, Stuart B., of Newliston, Kirkliston  
 1912 Howie, Thomas, Paddockhall, Linlithgow  
 1920 Inch, William, jun., Law Farm, Uphall  
 1920 Jackson, James, Kinnell Kerse, Bo'ness  
 1922 Johnstone, Andrew, Woodhead, Linlithgow  
 1901 Keay, Dr John, Bangour, Uphall  
 1914 King, Robert, Craigpark, Torphichen  
 1908 Lawson, James, Three Mile Town, Linlithgow  
 1919 Liddell, William, Butcher, Blackridge, West Lothian  
 1912+LINLITHGOW, The Marquis of, Hopetoun House, South Queensferry  
 1919 M'Gowan, William, Cauldcoats, Linlithgow  
 1908 MacKnight, George Simpson, Procurator-Fiscal, Linlithgow  
 1921 M'Laren, A. J., Milrig, Kirkliston  
 1921 M'Laren, D. F., Assistant Factor, Dalmeny House, Edinburgh  
 1885 M'Laren, J. T., The Leuchold, Dalmeny House, Edinburgh  
 1919 M'Nee, Thomas, jun., Castle Hill, Linlithgow  
 1900 Marshall, William, Barbauchlaw, Armadale  
 1908 Martin, Samuel, Woodville, Winchburgh  
 1879 Masson, Rev. Alex., The Manse, Kirkliston  
 1922 Meikle, James, Rousland Farm, Linlithgow  
 1914 Meldrum, A. J., of Dechmont, Uphall  
 1918 Mitchell, Alexander, Bridgend, Linlithgow  
 1859 Morrison, J., West Dalmeny, Dalmeny  
 1923 Neilson, Joseph, Whitdalehead, Whitburn, Linlithgow  
 1910 Newlands, Alexander, sen., Implement Works, Linlithgow  
 1918 Nimmo, John, Craigton, Winchburgh  
 1908 Paul, John, Stacks, Linlithgow  
 1921 Peat, John, Fortneuk, Uphall  
 1921 Prentice, David, Foulshields, Blackburn, Bathgate  
 1896 Ralston, A. Agnew, Philipstoun House, Philipstoun  
 1907 Ramsay, T. Y., District Road Surveyor, Bathgate

**Admitted**

- 1923 Renton, William, "Furbar," Armadale  
 1920 Richard, Alan Miller, Clarendon, Linlithgow  
 1912 Robertson, Archibald, Mannerston, Linlithgow  
 1920 Robertson, Robert, Ochiltree Place, Linlithgow  
 1919 Robertson, William, Gateside, Linlithgow  
 1868\*† Rosemary, The Earl of, K.G., K.T., Dalmeny House, Edinburgh  
 1922 Roy, Alexander, Bedlormie, Blackridge  
 1908 Russell, Richard, Mossie Farm, Bathgate  
 1912 Russell, William, Kirkroads, Bathgate  
 1900 Sandilands, William, Muldron, Fauldhouse  
 1919 Scott, William, Look-about-Ye Farm, Broxburn  
 1913 Shanks, Thomas, Bormie, Linlithgow  
 1920 Shanks, Thomas, 10 Mill Road, Bathgate  
 1912 Sibbald, David, Hardhill, Bathgate  
 1903 Sinclair, George, Home Farm, Dalmeny House, Edinburgh  
 1919 Smith, Alexander, Tarrareoch, Armadale, Linlithgow  
 1906 Smith, Robert, Westfield, Winchburgh  
 1919 Stewart, Abram, Pyothall, Broxburn  
 1906 Stewart, George, Drum Farm, Bridge-ness  
 1923 Stewart, Tom M., Five Stanks, Uphall  
 1920 Stewart, Robert Wilson, Drum Farm, Bo'ness

**Admitted**

- 1900 STEWART-CLARK, Sir John, Bart., of Dundas Castle, J.P., D.L., South Queensferry  
 1909 Stirling, William, Drum Farm, Whitburn  
 1915 Storry, James, Northfield, Fauldhouse  
 1919 Storry, John, jun., Stoneheap, Fauldhouse  
 1920 Tait, James, Gauze Farm, Bo'ness  
 1920 Thomson, James, East Manuel Farm, Linlithgow  
 1892 Thomson, Seton Murray, Preston House, Linlithgow  
 1912 Tod, John, Starlaw, Bathgate  
 1894 Torrance, T. A., Greenpark House, Linlithgow  
 1919 Torrance, William, jun., Trees Farm, Armadale  
 1920 Walker, Robert, Springfield, Armadale  
 1920 Walker, Thomas, Rosemount, Easton Road, Bathgate  
 1912 Wallace, William, Balbardie, Bathgate  
 1919 Weddell, John, Wyndford, Uphall  
 1919 West, Joseph, East Broadlaw, Uphall  
 1912 White, William, Marchwood, Bathgate  
 1907 Wilson, William, Boghall, Linlithgow  
 1919 Wolfe, John, Burnhouse, Uphall  
 1912 Wolfe, Robert, Wellpark, Bathgate  
 1907 Wood, James, Wallhouse Office, Torphichen  
 1915 Wyllie, William, Brompark, Torphichen  
 1913 Young, Scott, Mains House, Linlithgow

NUMBER OF MEMBERS, 1124.

## 5.—ABERDEEN DIVISION.

## EMBRACING THE

## COUNTIES OF ABERDEEN, BANFF, FORFAR (EASTERN DISTRICT), AND KINCARDINE.

## ABERDEEN.

## Admitted

- 1920 Abel, George, East Leylodge, Kintore  
 1868\*† ABERDEEN, The Marquis of, K. T., House of Cromar, Tarland  
 1920 Abernethy, James, Mains, Corsindae, Sauchen  
 1920 Adam, Robert, Advocate, 456 Great Western Road, Aberdeen  
 1919 Adam, Robert Ross Wilson, 32 Elmfield Avenue, Aberdeen  
 1921 Adam, Thomas L., Denmore, Bridge of Don  
 1920 Adams, Charles S., Easter Bellie, Glassel  
 1914 Adams, James, Baads, Peterculter  
 1914 Adams, John, Nether Anguston, Peterculter  
 1921 Aitchison, Miss Aileen M. P., Coniccleugh, Huntly  
 1920 Alexander, Edward, Overhall, Fyvie  
 1876 Alexander, George, South Balnoon, Huntly  
 1917 Alexander, George S., Ardfork, Old Meldrum  
 1920 Allan, James, Begsley, Kinaldie  
 1920 Allan, James, Wood Merchant, Bucksburn  
 1901 Allan, James R., Thornhill, Cults, Aberdeen  
 1880 Allan, John, Aikenshill, Newburgh, Aberdeen  
 1901 Allan, Richard S., Ashgrove Engineering Works, Aberdeen  
 1919 Allan, W. C., Ardmurdo, Inverurie  
 1920 Allan, William Watt, Shaggart, Cluny  
 1920 Allison, Thomas, Seed Merchant, 14 Regent Quay, Aberdeen  
 1920 Anderson, Alexander, Comisty, Huntly  
 1920 Anderson, Alexander Wilson, Nether Aucharnie, Forgue  
 1894 Anderson, George, Nether Aucharnie, Forgue, Huntly  
 1920 Anderson, George, East Terryvale, Dun Echt  
 1885 Anderson, George, West Fingask, Old Meldrum  
 1902 Anderson, George Alexander, Comisty, Forgue, Huntly  
 1920 Anderson, George Herbert, East Fingask, Old Meldrum  
 1920 Anderson, George J. C., Comisty, Huntly  
 1920 Anderson, James Morison, Home Farm, Auchaber, Forgue  
 1921 Anderson, John, Secretary, Garioch Farmer Club, Insh  
 1921 Anderson, John, Smithfield, Hazelhead, near Aberdeen  
 1920 Anderson, John, Bogs of Leslie, Insh

## Admitted

- 1920 Anderson, John, Seed Merchant, 14 Regent Quay, Aberdeen  
 1902 Anderson, Robert, Aucharnie, Forgue, Huntly  
 1908 Anderson, Robert, of Fingask, Old Meldrum  
 1921 Anderson, Robert, Milton of Tolmads, Tornaveen, Torphina  
 1920 Anderson, Robert J., The Mart, Kittybrawster  
 1908 Anderson, Robert John, jun., Auctioneer, Aberdeen  
 1920 Anderson, Robert John Johnston, Nether Aucharnie, Forgue  
 1907 Anderson, William, Home Farm, Hopewell, Tarland  
 1920 Anderson, William, Little Haddo, Newburgh  
 1894 Anderson, William, Saphock, Old Meldrum  
 1876 Anderson, William, Wardes, Kintore  
 1908 Anderson, William, West Cevdly, Kelg  
 1920 Angus, James, Wester Clova, Lumsden  
 1895 Annand, J. F., 156 Union Street, Aberdeen—Free Life Member  
 1907 Argo, George, Petty, Fyvie  
 1920 Argo, James, Tillymaud, Udney  
 1902 Armstrong, John, Whitehills, Cairnie, Huntly  
 1908 Arnott, John, Rosebank, Huntly  
 1921 Bain, John A. C., 2 King's Gate, Aberdeen  
 1919 Bain, John S., Milltimber, Aberdeenshire  
 1921 Barclay, George, Braeside of Rothmalze, Wartle  
 1893 Barclay, George, Strocharie, King Edward, Aberdeen  
 1918 Barclay-Harvey, Charles Malcolm, Dinnet, R.S.O.  
 1900 Barclay-Harvey, James C., of Kinord, J.P., Dinnet  
 1918 Barr, Rev. R. Littlejohn, Manse, Kinellar  
 1902 Barrie, James, Home Farm, Balmedie, Aberdeen  
 1884 Barron, George F., Thomastown, Auchterless  
 1920 Barron, James R., Templefolds, Skene  
 1885 Bean, James, last known address, Mains of Dumbreck, Udney  
 1920 Beaton, Frank, Mains of Glack, Pitcaple  
 1920 Beaton, George, East Knock, Mintlaw  
 1920 Beaton, James, sen., Mains of Glack, Pitcaple  
 1920 Beaton, James, jun., Mains of Glack, Pitcaple

## Admitted

- 1920 Beattie, Alexander, Mill of Fowles, Leochel-Gushnie, by Alford  
 1919 Beattie, Alexander, Tocherford, Warthill, Aberdeenshire  
 1921 Beattie, Charles William, Emerald Bank, Insch  
 1920 Beattie, Alexander, Banks, Strichen  
 1903 Beattie, Alexander, Bridgend, Fraserburgh  
 1906 Beattie, James, Banks, Strichen  
 1906 Beattie, L. B., Saltoun Place, Fraserburgh  
 1920 Beattie, James, Pitgair, Fisherie, Turriff  
 1920 Beattie, Captain William, Middletonack, Lonmay  
 1912 Bell, Alexander A., Whitewell, Tyrie, Fraserburgh  
 1904 Bell, Andrew, Litterty, Turriff  
 1903 Bell, John, Tyrie Mains, Fraserburgh  
 1888 Bennet, L., 33 King's Crescent, Aberdeen  
 1894 Bennet, Wm., Glenburnie, Inverurie  
 1920 Benzie, David, Findlatree, Whitehouse  
 1918 Birnie, John, Wester Ross, Longside  
 1920 Blisset, Mrs Janet Kathleen Murray, Lessendrum, Huntly  
 1920 Blisset, Captain William Turner Murray, Lessendrum, Huntly  
 1919 Blair, Goodall (D. Macandrew & Co.), 120 Loch Street, Aberdeen  
 1915 Booth, Alexander, Kinnermit, Turriff, Aberdeen  
 1903 Booth, James, of Downiehill, Peterhead  
 1895 Brand, Robert, Ardiffery, Hatton, R.S.O.  
 1903 Bremner, John, Old Mill, Strichen  
 1920 Brooks, William, Hatton of Ardoynce, Insch  
 1921 Brown, Alexander, 50 Seaforth Road, Aberdeen  
 1895 Brown, Alexander G., Witchhill House, Fraserburgh  
 1921 Brown, Andrew, 6 Marquis Road, Aberdeen  
 1920 Brown, Charles, Ivy Bank, Kintore  
 1921 Brown, Charles J., Dorncleugh, Cults  
 1920 Brown, George R., Lauchentilly, Dunecht  
 1903 Brown, James, Braco, Strichen  
 1920 Brown, James, 8 Roslin Terrace, Aberdeen  
 1920 Brown, John D., Cottown, Kintore  
 1894 Brown, Robert, 81 Rubislaw Den (South), Aberdeen  
 1903 Brown, Robert J., Newton, Belhelvie  
 1909 Bruce, George A., Inschfield, Insch  
 1920 Bruce, George William, Myreton, Insch  
 1876 Bruce, James, Collithie, Gartly  
 1920 Bruce, James G., Farm Manager, Aberfeldie Mains, Ballater  
 1876 Bruce, Peter, Greenhaugh, Insch, Aberdeen  
 1901 Bruce, Robert, Heatherwick, Inverurie  
 1920 Bruce, William, Cassigilla, Ellon  
 1920 Buchan, Andrew, Auchmacoladie, Strichen  
 1909 Burn, Colonel, M.P., Fyvie Castle, Fyvie  
 1918 Burnet, George H. M., Elrick House, New Machar  
 1911 Burnett, Miss Grace, Arndale, Cults, Aberdeen  
 1920 Burnett, T. P., Newton, Methlick  
 1875 Burr, Alexander, Tulloford, Old Meldrum  
 1920 Burr, Harvey, Tulloford, Old Meldrum  
 1921 Butchart, Henry J., D.S.O., B.L., Secretary, University of Aberdeen, Marischal College, Aberdeen  
 1920 Cabell, Henry, 18 Devanha Gardens East, Aberdeen  
 1900 Calder, Andrew, Cairton, Lumphanan

## Admitted

- 1912 Calder, Rev. James Jolly, Manse of Cairnie, Huntly  
 1912 Campbell, Archibald, Old Customs House, Regent's Quay, Aberdeen  
 1901 Campbell, George, Harthill, Bieldside, Aberdeen  
 1920 Campbell, James, Ardmiddle Mains, Turriff  
 1920 Campbell, Sylvester, Kinellar, Kinaldie  
 1921 Campbell, William Grant, Blairton, Balmedie  
 1920 Cantlay, W. G., 18 Polmuir Road, Aberdeen  
 1894 Cardno, Andrew P., Upperton, New Deer  
 1920 Cardno, James, Glasgofores, Kinellar  
 1920 Carnie, William A., Broomhill, Kintore  
 1920 Carr, Robert, Culhary, Alford  
 1920 Cassie, Alexander, jun., Blackhill, Drachlaw, Turriff  
 1919 Catto, James, Auchencrieve, Ellon  
 1907 Catto, James A., 100 Mile End Avenue, Aberdeen  
 1920 Catto, John, Knocothie, Ellon  
 1919 Chalmers, George, Burngrains, Methlick  
 1919 Chalmers, George, Castle Farm, Rosehearty  
 1920 Chalmers, John, Seedsman, Tarves  
 1894 Chalmers, John Lovie, Mains of Cardno, Fraserburgh  
 1918 Chalmers, L. M'D., Auchindoir Estates Office, Alford  
 1899 Chapman, Archibald, of Slackdale, Turriff  
 1920 Chessar, William, Easter Auquharney, Hatton  
 1921 Chessor, David, Percyborner, Fraserburgh  
 1921 Chessor, George Clinton, Assistant Factor, Claremont, 49 Victoria Street, Fraserburgh  
 1920 Chivas, Robert, Nether Inver, Monymusk  
 1908 Christie, Charles, Estates Office, Strathdon  
 1920 Chrystall, William J., Johnston, Lealie, by Insch  
 1908 Clapperton, James M., 77 Crown Street, Aberdeen  
 1920 Clark, Charles, Buchan Hotel, Ellon  
 1921 Clark, Graham, Ashbank, Aberdeen  
 1921 Clark, William, Tillyfar, Turriff  
 1920 Clark, William S. (Peter Young & Co., Glasgow), 61 Desswood Place, Aberdeen  
 1922 Cleghorn, Major Alexander, Drumrossie, Insch  
 1919 Cockburn, William R., Kintore Estates Office, Keith Hall, Inverurie  
 1903 Cocker, John, Hill of Petty, Fyvie  
 1919 Cocker, Robert, Hill of Petty, Fyvie  
 1920 Cohn, Harry, 62 Forest Avenue, Aberdeen  
 1910 Collie, George, Hillbrae, Bourtie, Inverurie  
 1908 Colman, W. H., of Bleack and Deskry, Dinnet, Aberdeen  
 1920 Connon, Robert, Nether Coullie, Kemnay  
 1920 Connon, William, Blair Fintray, Kinaldie  
 1901 Cook, James M., Asloun, Alford  
 1894 Cook, Thomas Nicol, Dorsell, Alford  
 1894 Cooper, John A., Dunnydeer, Insch  
 1921 Copeland, William, Macferry, Fyvie  
 1891 Copland, Robert, Milton, Ardlathen, Ellon  
 1908 Courage, David, Royal Oak Bar, Marischal Street, Aberdeen  
 1920 Coutts, George, West Northfield, Bucksburn, Aberdeen

## Admitted

- 1908 Cowe, Alexander, Gateside, Strachan, Banchory  
 1910 Cowie, Alfred William, Daviot Branch Farm, Pitcaple  
 1921 Cowie, George, Home Farm, Rothienorman  
 1908 Cowie, G. W., Easter Bo., Fisherie, Turriff  
 1920 Cowie, James, Bruntstane, Huntly  
 1908 Cox, Charles T., Altries, Aberdeen  
 1887 Crabb, Dd., New Aberdour, Fraserburgh  
 1921 Crabb, David R., M.R.C.V.S., 17 High Street, Strichen  
 1920 Craib, Charles A., Tilloch, Echt  
 1902 Craig, Alexander, 53 Schoolhill, Aberdeen  
 1921 Craighead, Alexander, Nether Aden, Mintlaw  
 1920 Craighead, William, Brae o' Biffie, Stuartfield, Aberdeen  
 1912 Craigie, William, Mains of Blackhouse, Peterhead  
 1920 Craigmile, Alexander, Wood Merchant, Glenhook, Dyce  
 1878 Cran, George, Old Morlich, Glenkindie  
 1921 Cran, James, Boghead, Drumblade  
 1923 Crawford, Miss Ida M., 67 Forest Road, Aberdeen  
 1920 Orichton, James, Millwright and Engineer, Strichen  
 1883 Croil, Thos., 3 Carden Terrace, Aberdeen  
 1902 Crombie, Alexander, Woodend, New Machar  
 1919 Crombie, C., Oluny Castle Home Farm, Oluny, Aberdeen  
 1922 Crombie, David L., 164 Market Street, Aberdeen  
 1919 Crombie, J. E., LL.D., of Parkhill, Aberdeenshire  
 1908 Cruickshank, Alexander, Aberdeen Lime Co., Port Errol  
 1922 Cruickshank, A. B., Kinbog, Fraserburgh  
 1902 Cruickshank, George Leslie, The Neuk, Fyvie  
 1920 Cruickshank, James, Ardlogie, Fyvie  
 1920 Cruickshank, James, Kilmarnock Arms, Cruden Bay  
 1919 Cruickshank, John D., Mill of Lathiers, Turriff  
 1906 Cruickshank, John W., Logienewton, Rothienorman  
 1920 Cruickshank, Robert Walker, Claymires, Turriff  
 1920 Cumming, Alexander, Kirkton, Dyce  
 1919 Cumming, Duncan (M.R.C.V.S.), Tranay, Peterculter  
 1911 Cunningham, John, 5 and 7 Rose Street, Peterhead  
 1921 Currie, Rev. Andrew, Newhills Manse, Bucksburn  
 1900 Cuahnle, James, Collonach, Drumoak  
 1886 Darling, D. C., *last known address*, 2 Hosefield Avenue, Aberdeen  
 1920 Davidson, Alexander, Baluss, Mintlaw  
 1920 Davidson, Alexander, Little Meldrum, Tarves  
 1902 Davidson, Andrew, Mains of Balmaud, King Edward, Aberdeen  
 1920 Davidson, A. B., Wardford, Methlick  
 1896 Davidson, Major D. F., of Deas, Deas Station, S.O., Aberdeen  
 1921 Davidson, George, Netherton of Auchtydonald, Longside  
 1920 Davidson, George, Grain and Manure Representative, Craig Neuk, Ellon  
 1919 Davidson, George F., Boghead of Dunlugas, Turriff

## Admitted

- 1919 Davidson, James, Claystyles, Memsie, Fraserburgh  
 1920 Davidson, James, Mill of Cloia, Mintlaw  
 1894 Davidson, James, of Holmwood, Aberdeen  
 1894 Davidson, James, Newton, Cairnie, Huntly  
 1920 Davidson, John, Boghead, Kintore  
 1920 Davidson, John, Whitehouse, Aberdeen  
 1918 Davidson, L. F. W., Huntly Lodge, Huntly  
 1920 Davidson, Robert, 16 Marischal Street, Peterhead  
 1909 Davidson, Samuel, Northseat, Auchedly, Tarves  
 1902 Davidson, William, Architect, *last known address*, Ellon  
 1894 Dawson, George, Phingask, Fraserburgh  
 1919 Dawson, James, Monkshill, Udry, Aberdeenshire  
 1886 Dawson, W. F. G., North of Scotland Bank, Inverurie  
 1896 Diack, James, 4 St Mary's Place, Inverurie  
 1912 Diack, William, Knockollochie, Pitcaple  
 1921 Dickson, Robert S., Littletown, Sauchen  
 1920 Dingwall, James, Mahon, Turriff  
 1921 Dingwall, John, Braiglewell Farm, Skene  
 1920 Donald, George, B.Sc. (Agric.), Agricultural Chemistry Department, Marischal College, Aberdeen  
 1923 Driver, A. L., 25 Crown Street, Aberdeen  
 1884 Duff, G. A., of Hatton, Turriff  
 1922 Duff, Lieut.-Colonel Garden Beauchamp, Hatton Castle, Turriff  
 1920 Duffus, Alexander, Greenburn, Tyrie, Fraserburgh  
 1920 Dufton, A., Corse of Kinnolr, Huntly  
 1920 Duguid, Miss H. M., Manar, Inverurie  
 1920 Duguid, Peter, of Bourtie, Auchinies, Blair, near Aberdeen  
 1918 Duncan, Alexander, Penelopefield, Turriff  
 1920 Duncan, Andrew, Balbithan, Inverurie  
 1919 Duncan, Hugh M'Lennan, Lethenty, Alford  
 1920 Duncan, James, Tillycorthie House, Udry Station  
 1901 Duncan, John William, 477 King Street, Aberdeen  
 1919 Duncan, Joseph, 35A Union Street, Aberdeen  
 1921 Duncan, Patrick, Balchers, King Edward  
 1920 Duncan, William, Burnside, Kintore  
 1918 Duncan, William, Dee Castle, Dinnet  
 1920 Duncan, William, 59 Gallowgate, Aberdeen  
 1920 Duncan, William, Mains of Pittendreich, Turriff  
 1920 Dunn, Alexander, Mid Clova, Lumsden  
 1920 Dunn, Alexander, Wester Corse, Lumphannan, Aberdeen  
 1920 Dunn, John, Eninteer, Leochel-Cushnie, Alford  
 1908 Dunn, Peter, Wester Leochel, Craigievar, Lumphannan  
 1921 Durno, George, Raich, Forgue  
 1923 Durno, George F., Uppermill, Tarves  
 1894 Durno, James, Easter Town, Fyvie, Old Meldrum  
 1909 Durno, James, Oricbie, Inverurie  
 1894 Durno, James, Rothiebrishane, Fyvie  
 1918 Durno, Leslie, Uppermill, Tarves  
 1885 Durno, Leslie, Kirkhill, Old Meldrum

## Admitted

- 1920 Duthie, Edwin C., Hillviews, West  
Cults, Aberdeen  
1920 Edwards, John, South Kirkhill, Nigg,  
Balmnagask  
1902 Ellis, James A., Mains, Cairncoullie,  
Cushnie, Alford  
1902 Ellis, William D., Kinclune, Towie,  
Glenkindie  
1901 Elmalie, William, Crookmore, Alford  
1921 Elphinstone, Alexander, Waterside,  
Memsie  
1917 Easlemont, G. G., North of Scotland  
College of Agriculture, 41½ Union  
Street, Aberdeen  
1920 Easlemont, Ransid, King's Acre, King's  
Gate, Aberdeen  
1920 Ewen, James (Messrs Ewen & Birse),  
23 Rose Street, Aberdeen  
1902 Farquhar, Charles, Skelmanae, Strichen  
1921 Farquhar, John, Marchlands, Boynddie,  
Fraserburgh  
1920 Farquharson, James, Cairnballoch, Al-  
ford  
1922 Farquharson, Norman D., of White-  
house, Whitehouse, Tough, Aberdeenshire  
1922 Fenty, William, Melkie Hilton, Turriff  
1872 Ferguson, Lieut.-Col. George A., of Pit-  
four, Mintlaw  
1920 Ferguson, Lieut.-Col. James William,  
Corrachree, Tairland  
1919 Findlay, Andrew C., Station Hotel,  
Kintore, Aberdeenshire  
1922 Findlay, John, Mains of Loirston, Nigg,  
by Aberdeen  
1920 Findlay, Robert, jun., Corthiemuir,  
Udny  
1920 Findlay, William M., Superintendent of  
Experiments, Agricultural College,  
Marischal College, Aberdeen  
1920 Fleming, Andrew, Mains of Countess-  
wells, by Bieldside, Aberdeen  
1904 Florence, Alexander, Knowley, Wart-  
hill, Aberdeen  
1920 Florence, George, South Cammaloun,  
Fyvie  
1920 Forbes, Dr A., High Street, Inverurie  
1901 Forbes, Harry, Greystane, Tullynessie,  
Alford  
1919 Forbes, John, Mains of Auchlossan,  
Lumphanan  
1919 Forbes, John, Muirton of Barra, Old  
Meldrum  
1898 Forbes, J. C. Ogilvie, of Boynddie,  
Fraserburgh  
1920 Forbes, Lord, Castle Forbes, White-  
house  
1920 Forbes, Patrick, Tillitbin, Kintore  
1921 Forbes, William, Leuchlands, Bridge of  
Don  
1915 Fordyce, Alexander Dingwall, Brucklay  
Castle, Maud  
1920 Forgie, David, Glova Farm, Lumsden  
1907 Fortescue, Miss Jessie I. J., Parkhill,  
Dyce, Aberdeen  
1921 Fowler, Alexander, Boynds, Inverurie  
1909 Fowle, John, Adziel, Strichen  
1920 Fowle, John, Millhill, Longside  
1920 Fowle, John B., Loanhead, New Deer  
1920 Fowle, Mrs M., Parkhouse Farm,  
Maud  
1873 France, C. S., 13 Cairnfield Place, Aber-  
deen  
1906 Fraser, Adam, Overhill, Foveran, New-  
burgh  
1899 Fraser, George M., Northcot, Strichen  
1908 Fraser, Hugh, Rosebank, Strichen  
1921 Fraser, Miss Mary, North of Scotland  
College of Agriculture, Craibstone,  
Bucksburn

## Admitted

- 1920 Fraser, William, Seaton Brick and Tile  
Co., Aberdeen  
1920 Fullarton, C. M., Memsie, Fraser-  
burgh  
1920 Fyvie, James F., Hattonslap, Old Mel-  
drum  
1919 Gall, John H., Pittodrie, Pitcairle  
1908 Gall, William, Newton of Hythie, Mint-  
law Station  
1891 Gammell, Sydney J., Countesswells  
House, Bieldside, Aberdeen  
1920 Garden, Frank M., Aulton of Arden-  
draught, Port Erroll  
1920 Garden, F. T., Bank House, Echt  
1882 Garvie, R. G., Bon-Accord Lane, Aber-  
deen  
1922 Garvie, Robert Glegg, 24 Dee Place,  
Aberdeen  
1920 Gaul, Peter, Whiterashes, Turriff  
1920 Geddes, Robert, Bithnie, Alford  
1920 Gellan, Frank, Forntree, Monynusk  
1920 Gerrie, John, Bogfearn, Lumphanan  
1921 Gibson, David C., 13 Bridge Street,  
Aberdeen  
1920 Gibson, William E. (Messrs George Bruce  
& Co.), 14 Regent Quay, Aberdeen  
1902 Gilbert, Francis, Whiteside, Tullynessie,  
Alford  
1920 Gill, James, Uppermill, Bucksburn,  
Aberdeen  
1920 Gillanders, William, Lary, Ballater  
1920 Gillespie, Francis, Strathside, Tough,  
Alford  
1902 Glen, William, last known address, Clerk-  
hill, Peterhead  
1904 Godsman, David M., Mains of Fedderate,  
Maud  
1921 Gordon, Adam W., Haddoch, Kemnay  
1876 Gordon, Henry, last known address, of  
Manar, Inverurie  
1886 Gordon, Henry G. Fellowes, of Knocke-  
spock, Clatt  
1919 Gordon, James, Strathorn, Pitcairle  
1920 Gordon, John, Wellheads, Huntly  
1908 Gordon, Colonel John Wolrige, of Hal-  
head, Esslemont, Ellon  
1905 Gordon, Reginald Hugh Lyall, of Aber-  
geldie (15 Belmont Park, Lee, Kent)  
1921 Gordon, Robert, New Kendal, Keithhall,  
Inverurie  
1894 Gordon, William Fowle, Broomhills  
Sandhaven  
1920 Graham, Charles Innes (Gordon, Graham,  
& Co.), 31 Market Street, Aberdeen  
1922 Graham, John J.P., Managing Director,  
Campbells, Ltd., 15 Bon Accord  
Street, Aberdeen  
1920 Grant, Alex., Wellheads, Alford  
1920 Grant, Colonel Sir Arthur, Bart.,  
D.S.O., Monynusk, Aberdeen  
1921 Grant, Arthur, Candacraig Home Farm,  
Strathdon  
1920 Grant, George, Hillbrae, Culsalmond,  
Insch  
1920 Grant, James, 294 Union Grove, Aber-  
deen  
1919 Grant, Robert, Auchenhuive, White-  
rashes, Aberdeenshire  
1919 Grant, William, Bank House, Meth-  
lick  
1920 Grant, William, Falchhill, Gartly  
1921 Grant, William F., Cornetrach,  
Gartly  
1922 Gray, Alexander, Melkie Bogs, Rothie-  
norman  
1920 Gray, Alex. W., Baker, 131 High  
Street, Inverurie  
1919 Gray, James, W. Pitinnan, Old Meldrum  
1902 Gray, John, Ardlaw Mains, Fraser-  
burgh

## Admitted

- 1894 Gray, William, Balgove, Old Meldrum  
 1919 Gray, William, Lumphart, Inverurie  
 1920 Green, Robert, *last known address*, 8 Causewayend, Aberdeen  
 1903 Gregor, James, Invercauld Arms Hotel, Braemar  
 1918 Greig, George C., Muirton, King Edward  
 1920 Greig, Robert Bertram Gillespie, Mountblair, Turriff  
 1884 Greig, William, Laggan Cottage, Milltimber  
 1920 Greig, William A., Kinclun, Durris, Drumoak  
 1921 HADDO, EARL OF, Haddo House, Aberdeenshire  
 1913 Haggart, Douglas C., Upper Bodachra, Dyce  
 1921 Hall, John, Thorneybank, Auchterless  
 1921 Harper, John, News Arms Hotel, Strathdon  
 1897 Harper, Robert J., Mellinside, Inch  
 1894 Harvey, Alex. Hunter, Fiddesbeg, Udney Station  
 1913 Harvey-Loutit, J., Ardo House, White Cairns  
 1885 Hay, Alexander, 18 Gladstone Place, Aberdeen  
 1902 Hay, John Rae, Little Ythsie, Tarves  
 1920 Hay, William, Mains of Lathiers, Turriff  
 1902 Henderson, Alexander, Laggan Cottage, Milltimber, Aberdeen  
 1920 Henderson, Alexander, Townhead, Kintore  
 1920 Henderson, James, New Morlich, Towie, Glenkindie  
 1920 Henderson, William, Forbes Hotel, Rosehearty  
 1920 Henry, Alexander O. (Aberdeen Commercial Co., Ltd.), Blaikie's Quay, Aberdeen  
 1902 Henry, A. M., Affleck, Huntly  
 1921 Henry, Edward, Boghead, Rosehearty, Fraserburgh  
 1903 Henry, James, Kinaldie, Dinnet  
 1912 Hepburn, Charles, Turnwathie, Strichen, Fraserburgh  
 1920 Hill, Alfred, B.Sc., Agricultural Chemistry Department, Marischal College, Aberdeen  
 1920 Hird, William, 25 Rosebank Terrace, Aberdeen  
 1909 Hopkins, John (North of Scotland Milling Co., Ltd.), Inverurie  
 1901 Howie, George, M.R.C.V.S., Alford  
 1920 Howie, Henry, Haughs, Turriff  
 1884 Hunter, Charles (Bon Accord Engineering Co., Ltd.), Upper Mills of Drum, Crathes  
 1920 Hunter, Charles, Muggarthaugh, Alford  
 1908 Hunter, Stephen (Northern Agricultural Co., Ltd.), Aberdeen  
 1873† HUNTLY, The Marquis of, Aboyne Castle, Aboyne  
 1884 Hutcheon, Alexander, Upper Mill, Turriff  
 1899 Hutcheon, George, Skeen House, Turriff  
 1921 Hutcheon, Harry, Auchmill, King Edward  
 1905 Hutcheon, John, yst., Ordley, Auchterless, Turriff  
 1920 Hutcheson, George, Commission and Grain Merchant, 47 Marischal Street, Aberdeen  
 1920 Hutcheson, Thomas (Barclay, Rosa, & Hutcheson, Ltd.), 87/71 Green, Aberdeen  
 1920 Hutcheson, W. E., of Cairngall, Longside  
 1903 Imlach, Alexander, Ellangowan, Alford

## Admitted

- 1908 Ingram, Alexander, Balgoharn, Alford  
 1915 Ingram, Alexander C., Bridgend, Auchterless  
 1920 Innes, James Cowie, Ardannes, Inverurie  
 1920 Innes, Thomas, of Learney, Torphins  
 1919 Ironside, David G., N.D.A., Assistant Agric. Executive Officer of East Aberdeenshire, Littlehill, Maud, Aberdeenshire  
 1911 Ironside, William, Littlehill, Maud, Aberdeenshire  
 1920 Ironside, William J., M.P.S., Littlehill, Maud  
 1922 Irvine, George, Todlachie, Monymusk  
 1921 Irvine, James, Gateside, Belhelvie, y Udney  
 1919 Irvine, Quentin H. I., Straloch, Newmachar  
 1920 Irvine, William, Woodland, Udney Station  
 1920 Irvine, William J., Mains of Drum, New Deer  
 1920 Irvine, Mrs. of Barra, Straloch, Newmachar  
 1922 Jack, William, Organiser S.F.S.U., 41 Orchard Street, Aberdeen  
 1920 Jamieson, James, Bogharvey, Marnoch, Turriff  
 1909 Jessiman, James, North of Scotland Milling Co., Ltd., Inverurie  
 1921 Jessiman, Mrs M. H., Cairnhill, Huntly  
 1919 Johnston, Alex., Auction Mart, Turriff  
 1898 Johnston, Alexander, M.R.C.V.S., Black Bog, Rothienorman  
 1919 Johnston, George, Hayfield, Peterhead  
 1920 Johnston, William, "The Boat," Fintray, Kinaldie  
 1920 Johnston, William, Loanhead Savoch, Auchnagatt, Aberdeen  
 1921 Johnstone, James, Newcraig, Udney  
 1920 Joss, Alexander G., Merchant, Methlick  
 1894 Keith, Alexander, Spreader Hill, Lommay  
 1907 Keith, James, Pitmedden, Udney  
 1901 Keith, M. J., Bruckley Estates Office, Aberdour House, New Aberdour  
 1920 Keith, William, West Knock, Mintlaw  
 1913 Kellas, James C., Balmacassie, Ellon  
 1920 Kelman, George, Belnaboth, Towie, Glenkindie  
 1902 Kemp, Charles, Auchincrieve, Rothiemay  
 1913 Kemp, William, Aberdeen Commercial Co., Ltd., Aberdeen  
 1907 Kemp, William, Aldie, Port Erroll, Cruden  
 1920 Kennedy, William, Newhall, Drumoak  
 1921 Kennedy, William M., Playhillock, Cruden  
 1920 Kerr, Adam, M.R.C.V.S., Fernbank, Ellon  
 1921 Kilgour, Robert, Balgownie Home Farm, Aberdeen  
 1876 Kilgour, Robert, Ardlin, Ellon  
 1908 King, Lieut.-Col. Alex. J., D.S.O., Tertowie, Kinellar  
 1910 King, Andrew, Conland, Forgue, Huntly  
 1876† KINROSS, The Earl of, Keith Hall, Inverurie  
 1920 Knox, William, Mid-Haddo, Fyvie  
 1920 Laing, George F., Mayfield, Whitehouse  
 1920 Lamb, James, Hillhead, Potterton, White Cairns  
 1921 Law, Alexander, 289 King Street, Aberdeen  
 1921 Law, David, New Bigging, Inverurie  
 1885 Law, John, Lochend of Barra, Inverurie

## Admitted

- 1930 Law, Robert S., New Keig, Whitehouse  
 1921 Lawrence, William Sim, Newbridge, Union Glen, Aberdeen  
 1919 Learmonth, John, Broomfield, Drum-oak  
 1920 Ledingham, John, Fintry, Turriff  
 1889 Ledingham, J. K., Fintry, Turriff—*Free Life Member*  
 1923 Ledingham, Robert, Lawfolds, Rayne, Inch  
 1920 Lee, John W., Whitestripe, Strichen  
 1919 Leggat, Alex., Gairneston, Turriff  
 1908 Leggat, William K., Yonderton, Turriff  
 1896 Leith, Colonel Alexander, of Glenkindie, Aberdeenshire  
 1890†Leith of Fyvie, Lord, Fyvie Castle, Fyvie  
 1900 Leith-Hay, Charles E. N., of Leith Hall, Kennethmont  
 1885 Leslie, David, Lochhills, Dyce  
 1908 Leslie, James, Middlemuir, Belhelvie  
 1898 Leslie, John, The Briars, Bieldside, Aberdeen—*Free Life Member*  
 1930 Leslie, John James, Mains of Arnage, Ellon  
 1915 Leslie, Peter, M.A., B.Sc., Lecturer on Forestry, Marischal College, Aberdeen  
 1905 Ligertwood, James, Woodside Terrace, Udney Station  
 1920 Ligertwood, James P., Muirton House, White Cairns  
 1930 Ligertwood, Robert Paterson, Pitlochrie, Ellon  
 1892 Littlejohn, George, *last known address*, Wellhouse, Alford  
 1919 Lockhart, John, Westertown, Rothienorman  
 1923 Longmore, W. Andrew, 41½ Union Street, Aberdeen  
 1920 Low, Alexander, Craigton Farm, Peterculter  
 1930 Low, Andrew, Craigton Farm, Peterculter  
 1919 Low, David W., Newton of Drum, Drumoak  
 1906 Lumsden, Captain E. F., of Balmedie, Aberdeen  
 1903 Lumsden, Hugh P., Clova, Lumsden, Aberdeenshire  
 1921 Lumsden, Rear-Admiral Walter, Pitcaple Castle, Aberdeenshire  
 1894 Lyon, Sir Alexander, 10 Queen's Road, Aberdeen  
 1920 Lyon, Charles, Wood Merchant, Clayhill, Aberdeen  
 1930 Macaulay, John, Victoria, Torphims  
 1930 M'Bey, William, Summerhill Farm, Stockot, Aberdeen  
 1930 M'Combie, Captain Charles, Guise, Tough, Whitehouse  
 1930 M'Connach, James, Gordon's Cottage, Tarland  
 1903 M'Donald, William Yeats, of Aquharney, Hatton  
 1930 M'Garrol, John, Mains of Boddam, Boddam  
 1923 M'Gillivray, Alexander, jun., Craigour, Glassel  
 1914 M'Gillivray, J. W., N.D.A., 41½ Union Street, Aberdeen  
 1922 M'Gowan, John Pool, M.D., University, Aberdeen  
 1901 MacIntyre, A. M., Towie Barclay, Auchterless Station  
 1930 MacKay, Alexander, Eden Home Farm, King Edward  
 1921 M'Kay, George, Uryside, Inverurie

## Admitted

- 1920 Mackay, James, Northern Agricultural Co., Limited, Aberdeen  
 1915 Mackay, James W., Forestry Commission, 156 Union Street, Aberdeen—*Free Life Member*  
 1908 M'Kay, Peter, Kinnoir, Huntly  
 1923 Mackay, Robert, Manager, Northern Assurance Co., Ltd., Aberdeen  
 1920 M'Kenzie, Alexander, North Warrackston, Tullynessle, Alford  
 1883 Mackenzie, William, *last known address*, 60 Hamilton Place, Aberdeen  
 1921 Mackenzie, W. A., Linnhead, Newburgh  
 1920 Mackie, John, Wine and Spirit Merchant, 83 Rosemount Place, Aberdeen  
 1916 Mackie, Maitland, North Ythsie, Tarves  
 1908 Mackie, Thomas, Mains of Rhynie, Rhynie, Gartly  
 1908 M'Kinlay, James, The Mill Farm, New Aberdour, Fraserburgh  
 1921 M'Kinnon, Alexander, Ladybank, Inverkeithny, Turriff  
 1919 Mackintosh, A. Blake, 58 Forest Road, Aberdeen  
 1920 Mackintosh, James, Rosehill, Cornhill Road, Aberdeen  
 1921 M'Knight, William, Drumduro, Pitcaple  
 1894 M'Laggan, James, 17 Richmondhill Place, Aberdeen  
 1921 M'Laren, Rev. Duncan, The Manse, Turriff  
 1887 M'Lean, Neil, of Breda, Alford  
 1920 M'Leod, J. D., Enzean, Kemnay  
 1921 M'Rae, Alex., Mills of Durno, Pitcaple  
 1921 M'Rae, Thomas, Westside, Carnie, Skene  
 1904 M'Robert, A. T. (Aberdeen Lime Co.), Aberdeen  
 1918 M'Robert, Alasdair Workman, Doune-side, Tarland  
 1920 Main, John, Auchallater, Braemar  
 1887 Maitland, Harry Reid, Haddo, Methlick—*Free Life Member*  
 1920 Maitland, John, Little Methlick, Methlick  
 1894 Maitland, Robert Cruickshank, Balhagard, Inverurie  
 1920 Maitland, Robert Cruickshank Milne, West Balhagard, Inverurie  
 1910 Maitland, William, East Balhagard, Inverurie  
 1902 Maitland, William, Pittduis, Auchterless, Turriff  
 1920 Malcolm, Dr John, Craigearn, Kemnay  
 1920 Manson, Captain Alex., Kilblean, Old Meldrum  
 1920 Marr, Edwin, The Garage, Turriff  
 1920 Marshall, Alexander, Haddo, Newburgh, Aberdeen  
 1920 Marshall, John, 5 Hadden Street, Aberdeen  
 1920 Marshall, John (Messrs Marshall & Philp), Aberdeen  
 1908 Marshall, William, V.S., Craigwillie, Huntly  
 1920 Massie, George, Miller and Farmer, Mill of Esleumont, Ellon  
 1914 Massie, George Duncan, Solicitor, 147 Union Street, Aberdeen  
 1902 Massie, James, Milltack, King Edward, Aberdeen  
 1920 Massie, John, Ferryvale, Skene  
 1919 Massie, John, Nethermill, Tarves  
 1920 Matheson, William (Warden Insurance Co.), 218 Union Street, Aberdeen  
 1920 Matthews, William, Merchant, Kirkton, Tough



## Admitted

- 1930 Meldrum, Alexander, Villafield, Inverurie  
 1908 Melvin, Peter, Middle Gateside, Culsalmond, Insh  
 1892 Mennie, A. M'G., Brawlandknowes, Gartly  
 1914 Mennie, George, Lochend, Wartle, Aberdeen  
 1920 Mennie, Robert, North Ley Lodge, Kintore  
 1875 Merson, James, Craigwillie, Huntly  
 1893 Merson, John, Millhill, Gartly  
 1914 Michie, Henry M., c/o John Michie, Kincairn, Blairs, Aberdeen  
 1920 Michie, John, Mains of Monaltrie, Crathie  
 1895 Michie, John, M.V.O., Kincairn, Blairs, Aberdeen  
 1920 Middler, William, Kinknockie, Uday Station  
 1908 Middleton, A., Belmont, Aberdeen  
 1919 Middleton, Alexander Addison, North of Scotland and Town and County Bank, Aberdeen  
 1920 Middleton, Lewis, Belmont Mart, Aberdeen  
 1906 Miller, J. P., Sandilands Chemical Works, Aberdeen  
 1895 Milligan, D. M. M., 12 Dee Street, Aberdeen  
 1920 Milne, Alexander, Andrewsford, Fyvie  
 1920 Milne, A. E., Advocate, 177 Union Street, Aberdeen  
 1920 Milne, Edwin, 21 Bon-Accord Street, Aberdeen  
 1904 Milne, Colonel George, Logie Riphinstone, Pitcairne  
 1908 Milne, Harry, Fetterletter, Fyvie  
 1894 Milne, James, Pittendrum, Pitligo, Fraserburgh  
 1920 Milne, John, Kingsford, Alford  
 1921 Milne, John, Ruthrieston Farm, Aberdeen  
 1908 Milne, John, Manse of Glenmuick, Ballater  
 1914 Milne, John, Mains of Williamstone, Insh  
 1920 Milne, J. B., Logie, Pitcairne  
 1923 Milne, Joseph A., Cothal House, Aberdeenshire  
 1887 Milne, Robert, Corsdean, Huntly  
 1920 Milne, William, 9 Burns Road, Aberdeen  
 1920 Minty, Allan, Newton of Rothmalse, Culsalmond  
 1920 Minty, Charles, Newton of Rothmalse, by Insh  
 1920 Minty, George, Thornhill, Insh  
 1920 Mitchell, Andrew J., 12 Golden Square, Aberdeen  
 1920 Mitchell, George, West Orichie, Auchnagatt  
 1920 Mitchell, James, Midmill, Alford  
 1908 Mitchell, John, Royal Athenaeum Hotel, Aberdeen  
 1921 Mitchell, William, Altonrie, Glenmuick, Ballater  
 1920 Mitchell, William, Whitecairns, New Deer  
 1868 Mitchell, William A., Auchnagathel, Whitehouse  
 1896 Moir, Alexander, 168 Clifton Road, Aberdeen  
 1907 Moir, J. R., Central Auction Mart, Kittybrewster, Aberdeen  
 1921 Moir, James W., Blacksmith, Fedderate, New Deer  
 1922 Moir, Miss Millicent, Mains of Craibstone, Bucksburn  
 1920 Moncur, David, Pittengullics, Milltimber, Peterculter

## Admitted

- 1920 Morgan, James, Braehead, Monymusk  
 1913 Morrison, A. E. F., of Bognie, Fren-draught, Huntly  
 1920 Morrice, William, Royal Asylum, Aberdeen  
 1894 Morrison, Alexander Smith, Stonebriggs, Rosehearty  
 1908 Morrison, Anthony, Logierieve, Aberdeen  
 1920 Morrison, Frank, Bucklerburn, Peterculter  
 1908 Morrison, George Alex., Botary Mains, Cairnie, Huntly  
 1920 Morrison, George L., Upper Cotburn, Turriff  
 1908 Morrison, James, Durno House, Pitcairne  
 1919 Morrison, James, Isaacstown, Inverurie  
 1920 Morrison, James Middleton, Lofthillock, Inverurie  
 1921 Morrison, Peter, Broomfield, Fergie  
 1919 Morrison, Peter, Milton of Inveramsay, Pitcairne  
 1920 Morrison, William, Blackchambers, Kinellar  
 1921 Morrison, William, Bucklerburn, Peterculter  
 1919 Morrison, William, Boghead, Cairnie, Aberdeen  
 1920 Morrison, William G., Lower Muirden, Duntugas, Turriff  
 1920 Mortimer, William, Melkelaugh, Kelg, Whitehouse  
 1920 Mowat, Alexander, Mains of Forest, Fraserburgh  
 1908 Muller, Adolph, 184 West North Street, Aberdeen  
 1920 Munro, D. G., M.A., B.Sc. (Agric.), County Organiser, Agricultural College Office, 41½ Union Street, Aberdeen  
 1920 Munro, James Christie, 35A Union Street, Aberdeen  
 1920 Munro, Mrs James Christie, 35A Union Street, Aberdeen  
 1920 Murcar, Alexander, Greytone, Alford  
 1920 Murdoch, Archibald, Little Endovie, Alford  
 1920 Murdoch, James, Little Endovie, Alford  
 1920 Murdoch, John, Little Endovie, Alford  
 1920 Murdoch, Robert, Milton, Glenbuchat, Gartly  
 1920 Murdoch, William, Milton, Glenbuchat, Gartly  
 1902 Murison, William, County Clerk, Aberdeen  
 1921 Murray, Alexander John, Breedless, Turriff  
 1914 Murray, James, Linden Cottage, Old Meldrum  
 1920 Mutch, Alexander R., Beanshill House, Milltimber  
 1920 Mutch, George, Kiplaw, Port Errol  
 1894 Mutch, James G., Malvern, Bridge of Don, Aberdeen  
 1920 Nicol, John, Gartidee Farm, Bridge of Dee, Aberdeen  
 1902 Nicol, Randall James, of Ballogie, Aboyne  
 1919 Nicol, Robert, Auchentarrh, Rayne, Aberdeen  
 1920 Nicol, Walter, Acrostyph, Auchterless  
 1908 Nicoll, Samuel A., Sunnyside, Rothiemorman  
 1882 Norrie, William, Cairnhill, Monquhit-ter, Turriff—Free Life Member  
 1894 Ogg, Charles, Baltimore, Glenbucket  
 1882 Ogston, Alexander M., of Ardee, Aberdeen  
 1916 Ogston, James, Bridgend, Port Errol  
 1920 Ogston, Thomas, Mains of Tulloch, Old Meldrum

## Admitted

- 1921 Orr, John Boyd, M.A., D.Sc., M.D., Redpool House, Bucksburn  
 1921 Park, James, Overhill, New Pitaligo, Aberdeen  
 1894 Park, William, Woodhead, Cairness, Lonmay, Fraserburgh  
 1920 Parker, Richard Gordon, Cocklarachy, Huntly  
 1919 Paterson, Andrew, Keir, Balmedie  
 1909 Paterson, Robert, Lendrum, Auchterless Station  
 1920 Paton, Robert, Broadmuir, Ellon  
 1908 Petrie, John M'G., Mains of Asleed, New Deer  
 1885 Philip, Forbes, Road Surveyor, Ellon  
 1921 Philip, George W., Woodhead, Fyvie  
 1920 Philip, James, Sunnyside, Kennay  
 1921 Philip, James G., Stoneyfield, Fyvie  
 1908 Philip, J. F., Garchory, Corgard, Strathdon  
 1894 Philip, John, Bellevue, Dyce  
 1919 Pirie, Alexander (George Sellar & Son, Ltd.), Huntly  
 1920 Pirie, Charles J., Arthraeth, Ellon  
 1921 Pirie, Fred, Cartlehaugh, Mintlaw  
 1920 Pirie, James A. C., Little D'ough, Ruthven, Huntly  
 1920 Pirie, J. A. D., Castles of Auchry, Monquhitter, Turriff  
 1919 Pirie, William, Dorlathers, Turriff  
 1859 Pittendrigh, A., Mains of Park, Lonmay  
 1919 Porter, James, Sauchenloan, Insch  
 1909 Primrose, James, Anchinclech, Rothiemay  
 1919 Proctor, Donald Fraser, Tillyfour, Whitehouse  
 1905 Profelt, W. J., M.A., B.Sc., Marischal College, Aberdeen  
 1919 Rae, John Nicol, Mountholly, Rosehearty  
 1882 Rae, William, Advocate, Aberdeen  
 1920 Ralston, Matthew C., last known address, Douneside Farm, Tairland, Aberdeen  
 1920 Ramsay, Captain J. Douglas, Balmoral Estates Office, Ballater  
 1894 Ramsay, William, jun., The Bungalow, Dyce  
 1923 Rannie, Alexander, Hillhead, Pitullie, Fraserburgh  
 1921 Rannie, John, Hillhead, Pitullie, Fraserburgh  
 1920 Reid, Alexander, Knapdaleak, Slains, Ellon  
 1908 Reid, Alfred H., Hillhead, Ellon  
 1920 Reid, Alfred H., jun., Hillhead, Ellon  
 1891 Reid, David, Crofts of Glenmuick, Ballater  
 1920 Reid, Mrs David, Burnfoot, Ballater  
 1884 Reid, John, Monaltrie, Alford  
 1894 Reid, John Low, Cromley Bank, Ellon  
 1919 Reid, John Nathaniel, Cromley Bank, Ellon  
 1885 Reid, William, 3 Hadden Street, Aberdeen  
 1921 Reid, William, Roadside, Phingask, Fraserburgh  
 1920 Reith, James, Home Farm, Drum, Drumoak  
 1920 Reith, James, Kittybrewster Auction Mart, Aberdeen  
 1920 Reith, John, Kennerty Dairy, 46 Rose Street, Aberdeen  
 1920 Reith, John, J.P., 3 St Nicholas Street, Aberdeen  
 1920 Reith, Thomas K., Old Eght, Eght, Aberdeen

## Admitted

- 1920 Reith, William, Kennerty Dairy, 46 Rose Street, Aberdeen  
 1909 Reith, William, Lower Middlefield, Woodside, Aberdeen  
 1919 Rennie, Alex. B., Tifty, Fyvie  
 1908 Rennie, C., Wester Fintray, Kintore  
 1914 Rennie, John, Upper Anguston, Peterculter  
 1922 Rennie, Lewis G., Upper Kinghorn, Newmachar  
 1920 Rennie, William D., Mains of Dumbreck, Tarves  
 1920 Reynard, Napier, 255 Westburn Road, Aberdeen  
 1920 Riddell, Charles, Bodysell, Memsie, Fraserburgh  
 1920 Riddock, Alexander Garrow, Mains of Mayen, Rothiemay  
 1920 Ritchie, David, Balnoe, Crathie, Ballater  
 1902 Ritchie, John Neish, Schoolhill, Turriff  
 1920 Robertson, Alexander, Mossie, Rosehearty  
 1920 Robertson, A. Y., Upper Towie, Glenkindie  
 1920 Robertson, Charles S., Myriewell, Eght  
 1908 Robertson, James, 98 Clifton Road, Aberdeen  
 1920 Robertson, John, Glenkindie Arms Hotel, Glenkindie  
 1920 Robertson, John A., Invercauld Arms Hotel, Ballater  
 1920 Robertson, Robert, Lower Inchcormie, Rothiemay  
 1920 Robertson, Thomas, Coldwells, Inverurie  
 1921 Robertson, Mrs Thomas, Aquithie, Kennay  
 1885 Robson, Alexander (W. Smith & Sons), 18 Market Street, Aberdeen  
 1908 Roger, Peter, Kinbroon, Rothienorman  
 1920 Rose, John, Westhill Mains, Skene  
 1885 Ross, A., Arngrove, Torphins  
 1858 Ross, H., care of the Secretary, Mutual Improvement Association, Tairland  
 1920 Ross, James T., Nether Leask, Slains  
 1898 Ross, R. R., Balmoral Buildings, 67-71 Green, Aberdeen  
 1920 Roy, James G., Fisherford, Rothienorman  
 1920 Runcleman, William, Castleton, King Edward  
 1919 Rust, John, Timber Merchant, York Street, Aberdeen  
 1886†SALTOUN, Lord, Philorth House, Fraserburgh  
 1921 SALTOUN, The Hon. the Master of, Philorth, Fraserburgh  
 1921 Sandison, Alexander, Huntly Arms Hotel, Aboyne  
 1909 Sangster, Alex., Drumhead, Balmedie  
 1914 Sangster, George, Eddieston, Peterculter  
 1923 Sangster, George, Greenhill, Fort Erroll  
 1920 Scott, Alexander, Cairnaddilly, Ellon  
 1920 Scott, John G., 29 George Street, Aberdeen  
 1921 Scott, John W. A., Waulkmill, Sauchen  
 1919 Scott, Robert, Norwich Union Life Office, 160 Union Street, Aberdeen  
 1881 Scott, Ronald, 53 Fountainhall Road, Aberdeen  
 1920 Sennie, A. S., 7 Hadden Street, Aberdeen  
 1920 Sellar, R. T., Agricultural Engineer, Huntly  
 1907 SEMMILL, Lord, Fintray House, Aberdeenshire  
 1894 Sharp, James Smith, Blackhalls, Rhynie

## Admitted

- 1921 Shearer, Andrew, Saplock Place, Inverurie  
 1894 Shearer, Eric James, Maybank Works, Turriff  
 1921 Shopper, Alexander, Wardfold, Tarland  
 1920 Shepherd, George, Shethin, Tarves  
 1921 Shewan, James, Uppermain, Echt  
 1920 Shewan, James S., Peathill, Keith Hall, Inverurie  
 1920 Shirras, William, Upper Ironside, New Deer  
 1895 Siewwright, Adam, M.R.C.V.S., Tarland  
 1919 Simmers, William, Overton of Memsie, Fraserburgh  
 1906 Simpson, Alexander, Broadland, Cairnie, Huntly  
 1894 Simpson, George, Fernhill, Countesswells, Aberdeen  
 1920 Simpson, John, Drumdelgie, Cairnie, by Huntly  
 1885 Simpson, John, Implement Maker, Peterhead  
 1921 Simpson, John, jun., Haudagain, Woodside, Aberdeen  
 1898 Simpson, William, 51 Whitehall Road, Aberdeen  
 1923 Sinclair, David, Redmoss, Aberdeen  
 1894 Skene, John, 5 Grove Terrace, Torphins  
 1889 Skirving, Robert, of Cobairdy, Huntly  
 1920 Sleigh, Alexander, St John's Wells, Fyvie  
 1894 Sleigh, O. W., Strichen  
 1919 Sleigh, John L., Tolquhon, Tarves  
 1896 Sleigh, John P., St John's Wells, Fyvie  
 1920 Smart, James, Cairnwhelp, Cairnie, Huntly  
 1919 Smart, William, Rosehall, Turriff  
 1928 Smart, William, Templand, Auchterless  
 1920 Smith, Adam C., Casablanca, Turriff  
 1920 Smith, Albert W., 532 Great Western Road, Aberdeen  
 1902 Smith, Andrew, Invercauld Estate Office, Ballater  
 1885 Smith, Arthur, *last known address*, Oakland Cottage, Kingsgate, Aberdeen  
 1920 Smith, Charles, Newmills, Peterculter  
 1902 Smith, Charles, Westerton, Huntly  
 1895 Smith, C. G., Estate Office, The Mains, Haddo House, Aberdeen  
 1920 Smith, Charles H., Beliscamphie, Slains, Ellon  
 1894 Smith, George, Kilreen, 23 King's Gate, Aberdeen  
 1920 Smith, Mrs George, Pittodrie House, Pitcairle  
 1885 Smith, James, Bank House, Strichen  
 1908 Smith, James, Northern Agricultural Co., Ltd., Turriff  
 1920 Smith, James, Overhills, Newhills, Aberdeen  
 1909 Smith, James A., Bank House, Strichen  
 1920 Smith, Miss Mary K., Pittodrie House, Pitcairle  
 1909 Smith, Montgomerie, Hillocks, Newhills, Bucksburn  
 1920 Smith, Peter, Kirkstyle, Kemnay  
 1894 Smith, Robert, Boggieshalloch, Turriff  
 1921 Smith, Robert, The Nenk, Tarves  
 1920 Smith, William, Ann Villa, Cults  
 1920 Smith, William, Mannofield, Aberdeen  
 1903 Smythe, George H., Balcarres Hotel, Echt  
 1908 Snowie, George, Taitswell, Mintlaw Station  
 1902 Spark, Rev. Wm. A., Glenbucket, Bridge of Bucket  
 1920 Spence, Charles, Forbes Arms Hotel, Bridge of Alford, Alford

## Admitted

- 1920 Spence, John W., Edinbanchory, Mossat  
 1920 Stables, George, Alton Cairnie, Ruthven, by Huntly  
 1920 Stephen, Alexander, Auchtylair, Mintlaw  
 1921 Stephen, Francis, of Suttie, Kintore  
 1920 Stephen, James, Tulloch, Forbes, by Alford  
 1923 Stephen, James A., Conglass, Inverurie  
 1920 Stephen, James W., Yokieshill, Mintlaw  
 1920 Stephen, John, Overton Benwells, Maud  
 1920 Stewart, Alexander, Pronie, Glengairn, Ballater  
 1921 Stewart, Mrs Bertha, Ballaterach, Dinnet  
 1920 Stewart, David, Balnacraig, Aboyne, by Kincardine O'Neil  
 1909 Stewart, Robert, Parks, Logie-Coldstone, Dinnet  
 1885 Still, George, Strathray, Kinnellar, Aberdeen  
 1898 Stodart, George, *last known address*, Huntly  
 1919 Stoddart, John, Aryburn, Dyce  
 1908 Stoddart, William, Perwinnes, Dyce  
 1883 Strachan, Alexander, Wester Fowlis, Alford  
 1921 Strachan, Alex. Leslie, Home Farm, Newton, Inch  
 1920 Strachan, Alexander R., Tulloch, Old Meldrum  
 1878 Strachan, Charles, Tillyorn, Lumphanan  
 1922 Strachan, James, New Mains, Towle, Glenkindie  
 1919 Strachan, John, Cricbie, by Old Meldrum  
 1920 Strachan, Leslie, Kirkhill, Ellon  
 1894 Strachan, Patrick, Eastown, Tarland  
 1920 Strachan, Robert, South Kirkton, Echt  
 1920 Strachan, William, Mains of Balquhain, Pitcairle  
 1894 Strachan, William, Upper Muirden, Turriff  
 1921 Strachan, William Hamilton, Home Farm, Newton, Inch  
 1915 Stuart, Alexander, Rosemount School Lodge, Belgrave Terrace, Aberdeen  
 1885 Stuart, E. R. Burnett, of Dens and Cricbie, Mintlaw  
 1921 Stuart, John, Meikle, Camaloun, Fyvie  
 1920 Sutherland, James B. S., Meddens, New Machar  
 1920 Swanson, George, Kepplestone, Aberdeen  
 1920 Swanson, Neil George, Kepplestone, Aberdeen  
 1920 Tait, William, Boolroad, Tarves  
 1919 Taylor, Alexander Watt, Milton of Shilorth, Fraserburgh  
 1909 Taylor, George, Home Farm, Inchgarth, Cults  
 1920 Taylor, James, Cairnfechel, Udney  
 1921 Taylor, Robert, Luchar, Skene  
 1923 Temple, Herbert W. F., Union Bank, Tarland  
 1920 Thomson, Alex., 169 Union Street, Aberdeen  
 1919 Thomson, John, Upper Beanshill, Milltimber  
 1920 Thomson, William, Garden Nook Close, Aberdeen  
 1920 Thomson, William, South Auchininna, Inverkeithny, by Turriff  
 1920 Thomson, William L., Chapelon, Leslie, Inch  
 1918 Tocher, J. F., D.Sc., F.I.C., Crown Mansions, 41½ Union Street, Aberdeen—*Consulting Chemist to the Society*

## Admitted

- 1920 Tough, David P., 13 Exchange Street, Aberdeen  
 1920 Tough, William (Messrs R. Tough & Sons), 13 Exchange Street, Aberdeen  
 1909 Trail, W., Riding Academy, Queen's Cross, Aberdeen  
 1920 Turnbull, James Bruce, Smithston, Gartly  
 1873 Udney, J. H. F., of Udney and Dudwick, Aberdeen  
 1920 Valentine, William, Thainstone House, Kintore  
 1921 Walker, George, Birkenhills, Turriff  
 1902 Walker, George, Tillygreig, Udney  
 1921 Walker, James, Duncain House, 464 Great Western Road, Aberdeen  
 1920 Walker, John, Legatesden, Pitcaple  
 1898 Walker, Roderick, Cutticeraig, Inverurie  
 1920 Walker, William, Culmellie, Alford  
 1920 Walker, William, North Newton, Rayne, Aberdeen  
 1918 Wallace, Falconer L., of Balcairn and Tillypronie, Tarland (40 Brook Street, London, W.)  
 1894 Watson, David, Burnthill, Fraserburgh  
 1920 Watson, John, Middlemuir, Strichen  
 1894 Watson, William, Middlemuir, Aberdeen, Strichen  
 1920 Watson, William, Balcairn, Old Meldrum  
 1920 Watson, William Jack, Rannieshill, Newmachar  
 1920 Watt, David T., Westside, Kingsford, by Alford  
 1894 Watt, George, *last known address*, Coralhill, Fraserburgh  
 1920 Watt, James, Tillycairn, Dinnet  
 1889 Watt, John, Gordon House, Dyce  
 1919 Watt, John, Newton of Chapel, Pitcaple  
 1920 Watt, John L., Sunnyside, Wartle  
 1920 Watt, William, Drumnahive, Kil-drummy, Mossat  
 1920 Watt, William, Sunnyside, Meikle Wartle  
 1894 Webster, James C., 10 Hamilton Place, Aberdeen  
 1920 Webster, John, Tofthills, Kintore  
 1908 Webster, John Duthie, The Bank, Tarves  
 1898 Webster, William, 15 Louisville Avenue, Aberdeen  
 1920 Welsh, Hugh D., Agricultural Chemistry Department, Marischal College, Aberdeen  
 1920 Williams, William Alexander, Gloies, Monymusk, Aberdeen  
 1902 Williamson, David D., Auldtown of Carnousie, Forglen, Turriff  
 1920 Williamson, Helena G., N.D.D., Instructors, North of Scotland College of Agriculture, Aberdeen  
 1922 Willox, Robert, Moss-side, Whitehill, New Pitligo  
 1895 Wilson, Alexander S., 218 Union Street, Aberdeen  
 1894 Wilson, C. F., 48 Polmuir Road, Aberdeen  
 1909 Wilson, James (Northern Agricultural Co.), Inverurie  
 1920 Wilson, James (Messrs G. Sellar & Son), 66 Forest Avenue, Aberdeen  
 1920 Wilson, James A., Home Farm, Rothiemay  
 1920 Wilson, John, 6 Crown Street, Aberdeen  
 1895 Wilson, Robert M., M.D., Tarty, Ellon  
 1885 Wilson, William, Coynachie, Gartly  
 1920 Wilson, William, Hill of Feshel, Udney, by Whiterashes  
 1918 Wilson, William L., of Millmoos, Turriff

## Admitted

- 1903 Wisely, William, 447 Great Western Road, Aberdeen  
 1920 Wisely, William Grant, 219 Great Western Road, Aberdeen  
 1920 Wishart, Leslie, Hill of Minnes, Udney  
 1919 Wood, A. H. E., of Glassel, Aberdeenshire  
 1909 Wood, Wm. (Aberdeen Lime Co., Ltd.), Inverurie  
 1920 Wright, Alex., Corskellie, Rathen  
 1920 Wright, Councillor Ebenezer Grossart, Johnstone Gardens, Mannofield, Aberdeen  
 1901 Young, George, Greenhall, Inach  
 1920 Youngson, William, North Auchronie, Skene

## BANFF

- 1908 ABERCROMBY, Sir George, of Forglen, Bart., Turriff  
 1922 Addison, Alexander, Whitehills, Banff  
 1922 Addison, John C. H., Grain Merchant, Banff  
 1920 Allan, Alexander, Mains of Baldavie, Boyndie  
 1893 Allan, George M., of Montbletton, Banff  
 1904 Allan, William, M.A., B.Sc., Burnside, Fordyce, Portsoy  
 1900 Anderson, William, M.R.C.V.S., Keith  
 1922 Barber, Henry, Factor, Aberlour  
 1893 Beaton, L., Ferry Cottage, Blantyre Street, Cullen  
 1920 Benzie, James J., Inchtamack, Cornhill  
 1908 Braid, F. L., 47 Low Street, Banff  
 1920 Bremner, Alexander, Birkenbush, Enzie  
 1918 Bremner, William, Newmills of Boyne, Cornhill  
 1918 Buie, James, Longmuir, Cornhill  
 1921 Cameron, William, Catherinebraes, Craighallachie  
 1908 Ohlsholm, John, Banffshire District Asylum, Ladybridge, Banff  
 1921 Copland, David, Braeside Farm, Findochty  
 1919 Cowie, James, V.S., Bogton, Cornhill  
 1920 Cowie, William, Culbirtie, Banff  
 1907 Crawford, K. H., Estate Office, Drummuir, Keith  
 1918 Dawson, John, Auchanachie, Portsoy  
 1911 Donald, George, jun., Ladyhill, Keith  
 1923 Duff, Captain G. B. Gordon, Estate Office, Drummuir, Keith  
 1918 Duncan, Andrew, Muirake, Cornhill  
 1918 Duncan, Robert, Muckleton, Cornhill  
 1904 Edgar, Alexander, Delnashough Hotel, Ballindalloch  
 1902 Forbes, Alexander, Rettie, Boyndie  
 1912 Forbes, Charles, Upper Dalachy, Banff  
 1914 Forbes, Henry Newman, Cowhythe, Portsoy  
 1920 Forbes, Thomas, Maryhill, Buckie  
 1922 Fortune, Allan Stewart, Portsoy  
 1898 Fortune, John L., Broom, Portsoy  
 1920 Fraser, Robert, Auchnahyle, Tomintoul  
 1903 Garden, Francis Alexander, of Troup, Banff  
 1919 Garden, George A., Cleanhill, Buckie  
 1920 Gillan, John G., Auchmillie, Portsoy  
 1918 Gordon, George, Deskie, Glenlivet, Banff  
 1920 Gordon, William Robert, Gordon Arms Hotel, Tomintoul

## Admitted

- 1923 Grant, Forbes, Knockdurn, Portsoy  
 1896 Grant, George, Glenfarclas, Inveravon, Blackboat, S.O.  
 1920 Grant, George, Sauchenbush, Ensie, Port Gordon  
 1902 Grant, James, Glenconglass, Tomintoul, Ballindalloch  
 1921 Grant, James L., Manager, Kinermory Farm, Aberlour  
 1902 Grant, John A., Pitglassie, Dufftown  
 1918 Grant, Robert, Auchorachan, Glenlivet  
 1910 Grant, William, Arradoul, Buckie  
 1920 Grant, Captain William Smith, Minmore, Glenlivet  
 1918 Green, James, Wester Whyntie, Portsoy  
 1899 Greig, John, South Sandlaw, Alvah, Banff  
 1920 Greig, John, jun., South Sandlaw, Alvah, Banff  
 1899 Gunn, Alexander J., Kilmilloch, Cullen  
 1921 Hay, Alexander George Petrie, Edintore, Keith  
 1911 Hay, George Petrie, 74 Mid Street, Keith  
 1918 Hay, James, Black Culphin, Cornhill  
 1920 Hay, William, Woodside Farm, Portknochie  
 1921 Hendry, Robert, Netherton, Aberlour  
 1921 Hird, George Wilson, The Brae Farm, Keith  
 1920 Ingram, William, Middleton Troup, Dufford  
 1919 Kemp, Alex., M.A., B.Sc. (Agric.), Agricultural College, Keith  
 1908 Kynoch, John, W. Isla Bank, Keith  
 1920 Laidlaw, John, Yarrowbank, Keith  
 1921 Leith, James, Glengerrack Mains, Keith  
 1920 Lindsay, Charles, Croughly, Tomintoul  
 1919 Lyon, John, M.R.C.V.S., 5 Low Street, Banff  
 1921 M'Arthur, Alex., Manager, Home Farm, Cullen  
 1921 M'Callum, Simon, Auchinhove, Grange, Keith  
 1919 M'Conachie, F. G., Connage, Buckie  
 1919 M'Conachie, George, Ardoch, Deskford  
 1918 M'Conachie, James C., Baley, Portsoy  
 1920 Macdonald, James, Achdregnie, Tonnauvulin, Glenlivet  
 1920 MacDuff, Donald, Deanshaugh, Mulben, Keith  
 1909 Machattie, George, Cattle Dealer, Keith  
 1891 MacIntosh, William, Fife Estates Office, Banff  
 1920 M'Kay, Alexander, Milton of Tillynaught, Cornhill  
 1921 Mackay, Alexander, Paddocklaw, Banff  
 1922 M'Kay, Donald, 127 Main Street, Aberchirder  
 1905 Mackay, George, Mains of Tannachy, Portgordon  
 1921 M'Kay, Henry Fraser, Mains of Tannachy, Portgordon  
 1921 M'Kay, William, Engineer, Aberchirder  
 1920 Mackenzie, Charles, Marionburgh, Ballindalloch  
 1922 M'Kenzie, George, Bogierow, Portsoy  
 1919 M'Kenzie, John, Westerlade, Rathven  
 1909 Mackenzie, Peter, Minmore Farm, Glenlivet  
 1920 M'Kenzie, William F., Auchenreath, Port Gordon  
 1912 Mackie, James, M.A., B.Sc., Reclietich, Glenfines, Dufftown  
 1922 M'Lean, William James, jun., Mill of Rathven, Buckie  
 1918 M'Lennan, Colin, Leitcheston, Cullen  
 1918 M'Lennan, James, Redythe, Portsoy

## Admitted

- 1905 M'Nicol, William, Newtown of Mountblairy, Alvah, Banff  
 1912 Maconochie, John, Broomhead, Dufftown, Banffshire  
 1920 Macpherson, William G., Mulben Mains, Keith  
 1909 M'William, James, Blythstane, Alvah, Banff  
 1886 Menzies, W. G. Stuart, Arndilly, Craigellachie  
 1921 Michie, William, Windsoer, Portgordon  
 1921 Middleton, James, Barnyards of Findlater, Portsoy  
 1905 Milne, Lewis, Rannas, Buckie  
 1909 Mitchell, George, Midtown, Cornhill  
 1918 Mitchell, George, Tombreckachie, Glenlivet  
 1920 Mitchell, William, The Palace, Gamrie, Banff  
 1893 Moggach, Joseph, Mains of Towiebeg, Botriphnie, Keith  
 1907 Morrison, Alexander, Cornecairn, Cornhill  
 1920 Morrison, Alexander, Backhill, Banff  
 1920 Morrison, George, White Culphin, Boyndie, Banff  
 1898 Murray, Alexander, Old Manse, Boyndie, Banff  
 1918 Murray, John F., Wardend, Banff  
 1909 Napier, Charles, Nether Dalachy, Boyndie, Banff  
 1920 Napier, Henry J., Seafield Street, Banff  
 1878 Ogilvie, A. M., Tillynaught, Portsoy  
 1908 Rattray, John, Hilton, Buckie  
 1918 Rattray, Thomas A., Baldavie, Banff  
 1902 Reid, Alexander, Lagmore, Ballindalloch  
 1920 Reid, David, Firth View, Portgordon  
 1919 Reidford, Robert, Mill Hill, Aberchirder  
 1920 Riach, Alexander, Findron, Tomintoul, Ballindalloch  
 1905\* Richmond and Gordon, The Duke of, K.G., Gordon Castle, Fochabers  
 1918 Riddoch, John, Barnyards of Baden-youchers, Cornhill  
 1918 Robb, A. Bannerman, 89 Seafield Street, Portsoy  
 1923 Robertson, Andrew Laing, Leitcheston, Portgordon  
 1895 Robertson, William, Grain Merchant, Banff  
 1908 Ross, Alexander, Kirkton, Deskford, Cullen  
 1911 Samson, D. T., Seafield Estates Office, Cullen  
 1921 Shaw, James, Ladycroft, Craigellachie  
 1918 Sheed, John, Upper Coull, Morauge, Glenlivet  
 1902 Sim, John, Aberlour Mains, Aberlour  
 1918 Simpson, George, Ryland, Alvah, Banff  
 1920 Simpson, James, Mains of Davidston, Cairnie, by Keith  
 1894 Simpson, Thomas A., Colleenard, Banff  
 1918 Simpson, William, 40 Low Street, Banff  
 1918 Smith, Alexander, Boge, Ensie, Port Gordon  
 1898 Smith, George, Ordens, Banff  
 1901 Smith, George, Greenlaw, Alvah, Banff  
 1918 Smith, John Watt, Knabbygates, Knock  
 1921 Smith, Mrs. Thriepland, Portsoy  
 1920 Souter, George, 1 Seafield Terrace, Portsoy

## Admitted

- 1920 Stevenson, Charles I., Blairshinnoch, Banff  
 1908 Stevensen, Douglas Ogilvie, Durn, Portsoy  
 1923 Stevenson, James L., Raggal, Boyndie  
 1918 Stewart, Alexander, Mosstown, Cornhill  
 1920 Stewart, William A., Nether Blairrock, Deskford, Cullen  
 1901 Strachan, George, Montcoffer Mains, Banff  
 1920 Sutherland, George, Sunnysbrae, Findochty  
 1896 Taylor, Alexander, Drumin, Glenlivet  
 1915 Thomson, F. A., Braes of Enzie, Port Gordon  
 1906 Thomson, George D., Kindrought, Portsoy  
 1918 Thomson, John, Newbigging, Enzie, Port Gordon  
 1918 Thomson, Robert, Thorneybank, Clochan, Port Gordon  
 1920 Turner, Stewart D., St Leonards, Banff  
 1912 Turner, William, Cairnton, Boyndie, Portsoy  
 1898 Watson, William, Banff Foundry, Banff  
 1920 Watt, F. A., Secretary, United Banffshire Agricultural Society, Banff  
 1918 Watt, John A., Blairmaud, Cornhill  
 1921 Webster, Charles, Mill of Auchintoul, Aberchirder  
 1918 Wilson, Alexander, Stoneley, Alval, Banff  
 1920 Wilson, George, South Colleonard, Banff  
 1902 Wilson, George A., Haughs, Keith  
 1911 Wilson, James, Kilmaichlie, Ballindalloch  
 1920 Wilson, James, Wester Jackston, Gamrie, Banff  
 1911 Wilson, Walter, Inchgower, Buckie  
 1918 Wiseman, William, Broomhills, Portsoy

## FORFAR

(EASTERN DISTRICT).

- 1898 Adamson, William S., Careston Castle, Brechin  
 1902 Adamson, Mrs Nora Jane, Careston Castle, Brechin  
 1898 Allison, Archibald, West Pittendreich, Brechin  
 1884 Anderson, D., Blairgowan, Carnoustie  
 1901 Annand, James M., Knowhead, Brechin  
 1890 Arnot, David R., Mains of Edzell, Brechin  
 1900 Arnot, David, jun., Hatton Mill, Arbroath  
 1896 Arnot, William, Fithie, Brechin  
 1914 Baillie, Robert B., Webster, Panmure Estates Office, Carnoustie  
 1919 Balnaves, John, Balquhadlie, Fern  
 1919 Balnaves, William, Balquhadlie, Fern  
 1920 Barron, James R., Findowie, Brechin  
 1876 Bean, George, West Ballochry, Montrose  
 1890 Beattie, George R., Pamphray, Inverkeilor  
 1921 Bell, James, Gilehorn, Inverkeilor, Arbroath  
 1911 Blair-Imrie, Major Hew, of Lunan, Lunan House, Brechin  
 1905 Bowie, Robert Colville (Mains of Kelly), Brookfield, Carnoustie  
 1920 Cameron, Archibald, Westside Farm, Brechin

## Admitted

- 1906 Cameron, Archibald V., Newton of Stracathro, Brechin  
 1896 Cameron, John, Westside, Brechin  
 1902 Campbell, Arch., Glenefock, Edzell  
 1915 Carlyle, John A. (Edinburgh and East of Scotland College of Agriculture), 2 Addison Place, Arbroath  
 1921 Carmichael, Robert, East Ballochry, Montrose  
 1905 Carnegie, D. C. Rutherford Lindsay, Kinblethmont, Arbroath  
 1887 Chalmers, P., Aldbar Castle, Brechin  
 1880 Chaplin, G. Robertson, Kinnaird Castle, Brechin  
 1920 Chapman, William, Blackhall, Brechin  
 1890 Collier, John W., Hatton, Carnoustie  
 1893 Coupar, Andrew, jun., West Kintrockat, Brechin  
 1919 Cowper, Harold William, Caledonia Granaries, Montrose  
 1908 DALHOUSIE, Earl of, Brechin Castle, Brechin  
 1922 Denholm, C. M., Southesk Estate Office, Forebank, Brechin  
 1921 Dick, Stewart, Broomknowe, Brechin  
 1920 Dodds, Henry W., Nether Dysart, Montrose  
 1920 Doig, William W., Carcary, Brechin  
 1921 Donald, William Alexander, 114 High Street, Montrose  
 1883 Dowall, J. F., *last known address*, Kelly Bleachfield, Arbroath  
 1922 Duke, David Edward, St Ninian's, Brechin  
 1875 Duncan, A. R., Parkhill, Arbroath  
 1898 Duncan, James, *last known address*, Balfour, Brechin  
 1919 Duncan, Commander John A., C.B., Magungie, near Arbroath  
 1906 Duncan, Robert, Pitpointie, Auchterhouse  
 1922 Eason, Alexander, Barry Mills, Carnoustie  
 1884 Fairweather, John, *last known address*, Chapelstown, Brechin  
 1892 Falconer, James, *last known address*, Milton of Conon, Carmyllie, Arbroath  
 1920 Falconer, J. Douglas, Forebank Canterland, Marykirk, Montrose  
 1894 Ferguson, William, Ironmonger, Brechin  
 1909 Ferguson, W. H., Swan Street, Brechin  
 1890 Fleming, Alex., Charleton Mains, Montrose  
 1901 Fletcher, Donald, Powmill, Brechin  
 1906 Francis, George A., Seaton Farm, Arbroath  
 1896 Garden, Norman M'Leod, *last known address*, Dundee  
 1921 Gorrie, John Y., Ardoch of Gallery, Montrose  
 1901 Graham, James, Balcathie, Arbroath  
 1895 Grant, Colin, Denfield, Arbroath  
 1902 Gray, Alexander, Agricultural Co., Brechin  
 1908 Greig, James, jun., Hilton, Fern, Brechin  
 1919 Greig, William, Seaton House, Arbroath  
 1908 Henderson, George Thomson, Templewood, Brechin  
 1905 Henderson, Robert G., Kinoraig, Brechin  
 1920 Howie, Matthew S., Huntlyhill, Brechin  
 1902 Howie, Thomas, Beechwood, Arbroath  
 1896 Hynd, James, Hodgeton, Inverkeilor, Arbroath  
 1922 Imper, Albert D., Assistant Farm Manager, Waulkmills Farm, Arbroath

## Admitted

- 1921 Jarron, George, Arbikie, Inverkeilor, Montrose  
 1894 Jarron, James Alexander, Rosehill, Arbroath  
 1894 Johnstone, John, Balnabreck, Brechin  
 1890 Kydd, James, Scryne, Carnoustie  
 1909 Low, David, jun., Reidhall, Inchbarr, Brechin  
 1902 Low, William, of Balmakewan, Marykirk, Montrose  
 1909 Lyall, Herbert, Old Montrose, Montrose  
 1881 M'Corquodale, D. A., Banker, Carnoustie  
 1869 M'Culloch, R. C., Myerton Villa, Carnoustie  
 1904 Macdonald, Reginald L., *last known address*, Windmill House, Arbroath  
 1890 MacIntyre, Peter, Denfind, Monikie, Dundee  
 1897 M'Laren, Alexander, Grain and Straw Merchant, 10 Allan Street, Dundee  
 1920 M'Laren, Finlay, Links of Barry, Carnoustie  
 1902 M'Laren, James, Nether Careston, Brechin  
 1905 M'Nab, John B., Keithock, Brechin  
 1900 M'Niven, Duncan, Willanyards, Brechin  
 1900 Macpherson-Grant, G. B., of Craigo, Hillside, Montrose  
 1920 Marshall, John J., Carsbreck, Carnoustie  
 1898 Middleton, George, Camphill House, Broughty Ferry  
 1914 Millar, Daniel, East Mains, Dunnichen  
 1920 Millar, James, East Mains, Dunnichen  
 1920 Milne, George, 30/47 Baltic Street, Montrose  
 1894 Milne, George Gardyne, 56 High Street, Montrose  
 1905 Milne, J. A., of Chapelton of Menmuir, Inchbarr, Brechin  
 1930 Milne, R. R., Drumachlie, Brechin  
 1902 Milne, William M., Balbinny, Brechin  
 1921 Mitchell, William, Glencairn, Dorward Road, Montrose  
 1905 Morgan, J. W., Grange of Conon, Arbroath  
 1920 Morgan, Percy E., of Windyhill, Arbroath  
 1905 Moyes, W. C., Renmure, Inverkeilor  
 1894 Myles, John Blythe, of Balglassie, Brechin  
 1909 Nicoll, William, jun., West Braikie, Montrose  
 1898 Nicoll, William, jun., The Cross, Carnoustie  
 1921 Ogston, Robert D., Snadon, St Cyrus, Montrose  
 1900 Pattullo, J. H., Pitskelly, Carnoustie  
 1884 Petrie, David D., 26½ Keptie Street, Arbroath  
 1920 Reid, Walter A., jun., Clochie, Edzell  
 1900 Reid, Wm. J., Fordhouse of Dun, Montrose  
 1920 Robertson, David, Hilton of Guthrie, Forfar  
 1920 Robertson, Ian, Newton of Guthrie, Forfar  
 1921 Robertson, R. Bruce, West Drums, Brechin  
 1884 Rodger, George, Waulkmills, Inverkeilor, Arbroath  
 1923 Russell, George Herbert, of The Burn, Edzell, Brechin  
 1895 Samson, James, Balwylio, Montrose  
 1920 Sangster, Alexander, The Mall, Montrose  
 1908 Scott, W. R. Addison, Newton of Arbriolot, Arbroath

## Admitted

- 1902 Semple, James, Old Downie, Carnoustie  
 1902 Semple, John L., Haughs of Kinnaird, Brechin  
 1911 Shanks, James, Dens Iron Works, Arbroath  
 1896 Smart, Arthur G., Dalbog, Edzell  
 1922 Smith, Adam, 124 High Street, Arbroath  
 1895†Southesk, The Earl of, Kinnaird Castle, Brechin  
 1900 Spalding, William, of Balconnell, Brechin  
 1915 Spence, Andrew, Commieston, Montrose  
 1922 Spence, Andrew, jun., Commieston, Montrose  
 1910 Spence, Henry E., Glenskenno, Montrose  
 1880 Stansfeld, Captain John, Dunnald, Montrose  
 1895 Steven, William, Craigmill, Carnoustie  
 1904 Stewart, David, Chellwood, Monifieth  
 1900 Stewart, Gordon, East Mains of Keithock, Brechin  
 1919 Strachan, Alexander, Fallaws of Linn, Arbriolot, by Arbroath  
 1894 Swan, William C., Inverpeffer, Carnoustie  
 1920 Tindal, John, of Dysart, Montrose  
 1896 Todd, James, Maison-Dieu, Brechin  
 1921 White, James, Hospitalshields, St Cyrus, Montrose  
 1920 Williamson, G., Canterland, Montrose  
 1896 Wilson, James A., Arnhall, Edzell  
 1920 Winter, Herbert, Maryton, Montrose

## KINCARDINE.

- 1920 Abernethy, George, Nether Ashentilly, Drumoak  
 1876 Adam, William, Bush, Banchory-Ternan  
 1901 Alexander, James, of Bent, Laurencekirk  
 1902 Alexander, Robert, of Redmyre, For-doun  
 1906 Anderson, David, Wester Durris, Crathes  
 1923 Anderson, Douglas, Upperton, Laurencekirk  
 1920 Anderson, George A., Kilduthie, Banchory Ternan  
 1908 Anderson, James, Pitcarry, Bervie  
 1921 Anderson, Lyall, Caldham Smithy, Laurencekirk  
 1920 Anderson, Sylvester C., Quithelhead, Crathes  
 1894 Annandale, A. B., Bank Agent, Stonehaven  
 1894 Baird, Henry Robert, of Durris, Drumoak  
 1922 Bennet, John, Mains of Newhall, Muchalls  
 1902 Blackhall, T. H., *last known address*, Elsieck House, Stonehaven  
 1920 Booth, Edwin, Nether Cairnhill, Muchalls, Fetteresso  
 1920 Brown, Eric James, View Mount, Banchory  
 1898 Brown, George T., East Cairnabeg, For-doun  
 1910 Brown, William, M.R.C.V.S., Silverbank, Banchory  
 1894†Bunsen, Sir Thomas, of Leys, Bart., Crathes Castle, Aberdeen

## Admitted

- 919 Calder, George, Midtown of Barras, Stonehaven  
 1920 Cargill, Charles, Alptly, Fordoun  
 1920 Carnegie, James, Hill of Findon, Portlethen  
 1920 Carnegie, Mrs Janet, Hill of Findon, Portlethen  
 1894 Carr, William, East Mains of Barras, Stonehaven  
 1888 CLIXTON, Lord, Fettercairn House, Fettercairn  
 1912 Connon, James B., Solicitor, Stonehaven  
 1914 Cooper, James, Ley, Banchory-Ternan  
 1920 Cooper, John, Ley, Banchory  
 1920 Cooper, John, Quoosies, Muchalls  
 1920 Copland, Archibald, Old Milne of Hirn, Banchory  
 1920 Coutts, David, Westerton, Crathes  
 1899 Orlighton, C. M., Kintore Estates Office, Laurencekirk  
 1921 Dickson, W., Gossesslie, Fettercairn, Kincardineshire  
 1896 Duff, Major Robert W., of Fetteresso, Stonehaven  
 1902 Duguid, John, Darnford, Durris  
 1902 Dunbar, John C. F., Factor, Crathes Castle, Crathes  
 1919 Dykes, John Finlay, Burnton, Laurencekirk  
 1906 Falconer, William G., Cairnton, Fordoun  
 1915 Ferrier, John, Mill of Conveith, Laurencekirk  
 1920 Findlay, George, Glasslaw, Stonehaven  
 1920 Findlay, George F., Harvieston, Stonehaven  
 1920 Findlay, James, Balquharn, Portlethen  
 1902 Findlay, James, Hillside House, Portlethen  
 1920 Findlay, William D., Craighead Farm, Portlethen (13 Hadden Street, Aberdeen)  
 1920 Findlay, William J., Glasslaw, Stonehaven  
 1919 Finlayson, Robert S., Kinkell, Fordoun, Kincardine  
 1918 Fortescue, Miss E. B. Irvine, Craigness, Muchalls  
 1907 Fortescue, Miss Jessie T. I., Craigness, Muchalls  
 1884 Fortescue, William I., Kingcausie, Milltimber  
 1902 Fraser, George, c/o W. Lindsay, Drumsleed, Fordoun  
 1920 Fraser, James, Fasque Estate Office, Fettercairn, Laurencekirk  
 1921 Fraser, William, Mulloch, Crathes  
 1920 Garvie, William, West Cairnbeg Farm, Laurencekirk  
 1920 Gillespie, Bryce B., Bridgeton House, St Cyrus, Montrose  
 1876 GLADSTONE, Sir J. R., of Fasque, Bart., Fettercairn  
 1920 Gordon, James, Newton, Crathes  
 1921 Graham, William, Upper Coullie, Fordoun  
 1920 Greig, George, Brighton, Durris  
 1920 Guthrie, James, Brae of Pert, Laurencekirk  
 1920 Hadden, William, Gallaton, Stonehaven  
 1884 Hart, John, Cowie House, Stonehaven  
 1878 Hay, J. T., of Blackhall Castle, Banchory  
 1920 Henderson, James F., Taylorspark, St Cyrus, Montrose  
 1902 Henry, William, Hatton Mains, Montrose  
 1909 Hird, David, Sauchenshaw, Netherley, Stonehaven

## Admitted

- 1896 Hird, Samuel, Netherley, Stonehaven  
 1915 Howie, James M., Clansholm, Laurencekirk  
 1922 Hunter, William, Redcloak, Stonehaven  
 1920 Hutcheon, Joseph, Old Bourtreebush, Newtonhill, Stonehaven  
 1920 Imlay, John A. J., jun., Arnhall, Edzell  
 1920 Imlay, John M., Arnhall, Edzell  
 1920 Ingram, Alexander, Luther Mains, Laurencekirk  
 1888 Innes, Rev. W. D., of Cowie, Stonehaven  
 1908 Ireland, Edwin, Ramsay Arms Hotel, Fettercairn  
 1921 Jamieson, George, Burnside, Netherley Stonehaven  
 1908 Japp, Frank, Newton, Laurencekirk  
 1921 Johnston, Robert, Woodside, Charleston, Nigg  
 1920 King, James, Chapelton, Newtonhill, Stonehaven  
 1920 Leask, James, Mid Blairs, Auchenblae, Fordoun  
 1908 Lees, Ernest A. G., Durris Estate Office, Drumoak  
 1919 Leslie, William, East Tilbouries, Maryculter  
 1920 Lindsay, Thomas, Newlands Farm, Auchinblae, Fordoun  
 1910 Lindsay, William, Drumsleed, Fordoun  
 1920 M'Andrew, Alexander, Newton Croft, Newtonhill, Fetteresso  
 1920 M'Callum, George, Braehead Farm, Dunnottar, Stonehaven  
 1915 Mackay, John, Thornhill, Fettercairn  
 1920 M'Kenzie, Benjamin, Galloquhine Farm, Auchinblae, Fordoun  
 1920 M'Kenzie, Hector, Galloquhine Farm, Auchinblae, Fordoun  
 1920 Mackie, Alexander, Balrownie, Durris, Crathes  
 1920 Manson, David, Pittengardner, Fordoun  
 1920 Manson, Peter, Sillyflat, Bervie  
 1920 Mansou, William, Balfour Mains, Fettercairn  
 1919 Martin, John Thomas, Slains Park, Bervie  
 1921 Martin, W. R., Farrochie, Stonehaven  
 1920 Meldrum, William, Mill of Barras, Stonehaven  
 1908 Melvin, William M., Bridge Mill, Laurencekirk  
 1909 Milne, Alexander, Newtonhill Farm, Newtonhill, Stonehaven  
 1900 Milne, Alexander, Urie Estates Office, Stonehaven  
 1922 Milne, David, Mill o' Forrest, Stonehaven  
 1920 Milne, David, Pert, Laurencekirk  
 1902 Milne, George, Mains of Barras, Kinneff, Stonehaven  
 1905 Milne, Robert, Inch of Arnhall, Edzell  
 1908 Milne, Robert, *last known address*, Wester Durris, Drumoak  
 1913 Mitchell, A. B. (Craigie & Mitchell), Laurencekirk  
 1920 Mitchell, Robert Valentine, Grain Merchant, Stonehaven  
 1919 Monro, Joseph, Craighill, Nigg, Kincardineshire  
 1914 Munro, Donald, Ravenswood, Banchory-Ternan  
 1920 Murray, Clarence, Blackiemuir, Laurencekirk  
 1920 Murray, H. B., Auctioneer, Stonehaven  
 1920 Nicol, John, Drumelzie, Fordoun  
 1921 Nicoll, John, Cauldcots, Fettercairn  
 1900 Nicolson, Arthur B., of Glenbervie, Drumfithie



Admitted		Admitted	
1922	Paterson, William, Atholl Cottage, Robert Street, Stonehaven	1920	Ross, John, Garrol, Durris, Crathes
1912	Paul, Graham, Spittalmyre, St Cyrus, Montrose	1920	Ross, Peter, Barns of Durris, Crathes
1923	Pirie, George J., Fernyhatt, Bervie	1894	Shaw, Charles, Maidenfold, Maryculter Aberdeen
1923	Pirie, James G., Fernyhatt, Bervie	1913	Shirras, John, Denmill House, Auchendblae, Fordoun
1878	Porteous, D. B., of Lauriston, Montrose	1913	Sinclair, Dr William, Loinston, Nigg, by Aberdeen
1914	Pratt, John, The Green, Rasmuir, Banachory-Ternan	1921	Smith, Alexander, Roorkee, Urie Crescent, Stonehaven
1906	Preddy, Charles A., Drumyocker, Kincardineshire	1902	Thom, James C., Quithelhead, Crathes
1914	Reid, Alexander, Balbridie, Crathes	1921	Thomson, James L., Wicker Inn, Banachory
1923	Raid, Alexander Percy, Pitgarvie, Laurencekirk	1921	Vipan, Geoffrey, Woodend of Trustach, Banachory
1920	Reid, James, Boggarthhead, Stonehaven	1893	Walker, John Wilson, Kilreen, Stonehaven
1900	Reid, James, Easter Tulloch, Laurencekirk	1892	Walker, Robt. W., Portlethen, Aberdeen
1922	Reid, William, Crollshillock, Newtonhill, Stonehaven	1915	Watson, John, Sauchieburn, Luthermuir, Laurencekirk
1920	Robertson, John, Drumnagair, Laurencekirk	1920	Watson, William, Briggs, Stonehaven
1920	Ross, Alex. W., Keilburn, Laurencekirk	1920	Youngson, A. L., Bowlatts, Strachan, Banachory

NUMBER OF MEMBERS, 1292.

## 6.—DUMFRIES DIVISION.

### EMBRACING THE

### COUNTIES OF DUMFRIES, KIRKCUDBRIGHT, AND WIGTOWN.

#### DUMFRIES.

##### Admitted

- 1921 Adams, George, Westwater, Langholm  
 1922 Aird, Robert, Kirkpatrick Hill, Closeburn, by Thornhill  
 1922 Aitchison, Andrew, Old Irvine, Canonbie  
 1879 Aitken, John M., Norwood, Lockerbie—  
*Free Life Member*  
 1922 Alexander, J. W., of Newton, M.V.O.,  
 Moffat  
 1910 Allan, Hugh H., Kirkbog, Thornhill  
 1920 Anderson, Peter, Mainhill, Ecclefechan  
 1904 Annandale, William Edwin, Hopsrigg,  
 Langholm  
 1922 Armstrong, James, Castlehill, Lockerbie  
 1922 Armstrong, James, Greenburn, Canonbie  
 1922 Armstrong, Robert, Beckfoot, Annan  
 1907 Armstrong, W., Green, Annan  
 1922 Austin, James, Kilblain, Bankend,  
 Dumfries  
 1911 Austin, Robert, Osborne House, Dumfries  
 1923 Austin, William J., Kirkblane, Caerlaverock, Dumfries  
 1888 Baird, Alexander, Viewforth, Annan  
 1921 Baird, James A., Engineer, Annan  
 1913 Baird, John, Netherwood, Dumfries  
 1930 Barbour, James, South Corriellaw, Lockerbie  
 1922 Barbour, James, Tinwald Parks, Dumfries  
 1903 Barbour, John, Afton Lodge, Lockerbie  
 1930 Barbour, Robert, Bengall, Lockerbie  
 1922 Barker, John, Uplands, Edinburgh Road, Dumfries  
 1922 Beattie, A. O., Dornock Mills, Eastriggs, Annan  
 1895 Beattie, John, Baurch, Rigg, S.O.,  
 Carlisle  
 1917 Beattie, John G., Dalmakerran, Tynron, Thornhill  
 1898 Beattie, Lewis, Mossknowe, Canonbie  
 1923 Beattie, T. L., Wickethorn, Kirkpatrick Fleming, Lockerbie  
 1915 Begg, Henry James, Grain Stores, Lockerbie  
 1922 Bell, David, Anchengyle, Canonbie  
 1914 Bell, David, Peelhouses, Lockerbie  
 1886 Bell, George, Minsca, Ecclefechan  
 1922 Bell, George, Orchard, Canonbie  
 1901 Bell, John, Dornock House, Eastriggs, Annan  
 1922 Bell, John J., Woodhouselees, Canonbie  
 1906 Bell, John Mackintosh, of Roundstonefoot, Mansfield, Moffat  
 1922 Bell, Rachel E., Torbeckhill, Waterbeck, Lockerbie

##### Admitted

- 1922 Bell, Thomas, Bruntshielbog, Canonbie  
 1922 Bell, W. A., of Castle O'er, Langholm  
 1922 Blacklock, John, Hoddamtown, Ecclefechan  
 1922 Blacklock, Peter, Supplebank, Ecclefechan  
 1875 Blackwood, Alexander, Well View, Moffat  
 1922 Blount, James, Cullivait, Kirkmahoe  
 1878 Borland, John, Auchencairn, Closeburn, Thornhill  
 1908 Borthwick, A. Hay, Caplefoot, Lockerbie  
 1922 Boyd, William, Clarencefield, Ruthwell  
 1922 Boyes, James, Newfield, Annan  
 1922 Boyes, James, jun., Newfield, Annan  
 1922 Bramwell, Archibald O., Burnfoot, Sanquhar  
 1922 Broatch, Alexander, Hightae, Lockerbie  
 1923 Broatch, George, Dryfesdalegate, Lockerbie  
 1895 Broatch, George, Justinlees, Annan  
 1922 Broatch, George, Thwaite, Ruthwell  
 1922 Broatch, James, Summerfield, Annan  
 1922 Broatch, Robert, Thwaite, Ruthwell  
 1922 Broatch, William, Horseclose, Annan  
 1922 Broatch, William J., Cocklicke, Annan  
 1922 Broatch, William James, Purdomstone, Lockerbie  
 1922 Brodie, David, Ravenscraig, Dumfries  
 1910† Brook, Lieut.-Colonel Charles, of Kinmount, Annan  
 1895 Brook, E. J., of Hoddam, Hoddam Castle, Ecclefechan  
 1902 Brown, David, Stepford, Holywood, Dumfries  
 1886 Brown, James, Burnside, Auldgrith, Dumfries  
 1908 Brown, James, Jaarbruck Lodge, Thornhill  
 1922 Brown, John, Templand, Thornhill  
 1922 Brown, Joseph, Roberthill, Lockerbie  
 1922 Brown, Robert, Croftjane, Thornhill  
 1886 Brown, Stephen, Boreland, Lockerbie  
 1922 Brown, Thomas Dunlop, Annandale Avenue, Lockerbie  
 1922 Brown, William, Comlongan Nursery, Ruthwell  
 1922 Brown, William, Drum, Thornhill  
 1920 Brown, William, Grain Merchant, Penpont  
 1911 Brown, William, Roberthill, Lockerbie  
 1922 Bruges, George E., Middlegill, Moffat  
 1922 Bruntan, George D., Craigiesran, Moniaive  
 1921 Buchanan-Jardine, John William, Comlongan Castle, Ruthwell  
 1922 Burgess, Herbert, Stobahill, Lockerbie  
 1895 Burnie, William, Penlaw, Lockerbie

**Admitted**

- 1896 Burness, Charles, Renwick Bank, Dun-  
score  
1922 Burns, Archibald F., 17 High Street,  
Lockerbie  
1923 Burns, Wallace, Hollandhirst, Canon-  
bie  
1922 Byrne, Colonel E. I. L., of Elsiefields,  
Lochmaben  
1922 Calder, Robert, Barnkine-of-Craigs,  
Dumfries  
1910 Campbell, David W., Breckonhill, Lock-  
erbie  
1910 Carlyle, James, Monraive, Middlebie,  
Lockerbie  
1920 Carlyle, Thomas, Milnholm, Langholm  
1908 Carlyle, Thomas R., Waterbeck, Eccle-  
fechan  
1922 Carmichael, John, Lochbank, Loch-  
maben  
1896† Carruthers, Lieut.-Colonel F. J., of  
Dormont, Lockerbie  
1923 Carruthers, R. Lindsay, Newall Terrace,  
Dumfries (12 High Street, Perth)  
1895 Carruthers, William R., Brooklands,  
Lockerbie  
1922 Carthew-Yorstoun, Miss M., Parkend,  
Lockerbie  
1923 Cartner, John, Clerkhill, Langholm  
1919 Carson, John (John Poynter, Son, &  
M'Donalds), Leafeld Road, Dumfries  
1922 Cassels, James H., of Auchenstroan,  
Moniaive  
1922 Chalmers, James S., Charlesfield, Annan  
1922 Chalmers, John, Outer Woodhead, Canon-  
bie  
1908 Chapman, Andrew, Dinwoodie Lodge,  
Lockerbie  
1908 Charlton, James, Huntingdon, Dum-  
fries  
1922 Clark, John, Waterhead of Dryfe,  
Boreland, Lockerbie  
1922 Olenaghan, James, Lochvale, Dumfries  
1915 Cochrane, James, Broomhills, Lock-  
erbie  
1922 Cochrane, Matthew, Ryemuir, Loch-  
maben  
1907 Colston, William G., Rosemount, Lock-  
erbie  
1922 Common, Thomas, Bridgemuir, Locker-  
bie  
1922 Copland, Samuel, Castlebank, Dum-  
fries  
1922 Cormack, David, 49 Victoria Square,  
Lockerbie  
1920 Corrie, Thomas, Blue Bell Hotel,  
Lockerbie  
1922 Corrie, Thomas, jun., Blue Bell Hotel,  
Lockerbie  
1922 Coulthard, William, Greenfield, Ruth-  
well  
1908 Cowan, Ronald L., Hallguards, Eccle-  
fechan  
1920 Cowie, Douglas Burns, Roundstonesfoot,  
Moffat  
1897 Crabbe, Major, Duncow, Dumfries  
1899 Craig, Edward J., The Burn, Thorn-  
hill  
1922 Craig, Stanley B., Capplegill Farm,  
Moffat  
1910 Crawford, Hugh, Wintereburgh, Annan  
1922 Crawford, Peter W., Dryfeholm, Locker-  
bie  
1910 Crawford, Robert, West Gallaberry,  
Dumfries  
1895 Crawford, William, Broadchapel, Loch-  
maben  
1922 Orichton, David, Limekilns, Annan  
1922 Orichton, D. W., Limekilns, Annan  
1910 Critchley, Major Edward Asheton,  
Stapleton Tower, Annan

**Admitted**

- 1909 Cromar, Napier, Upper Locharwoods,  
Ruthwell  
1908 Crosbie, John, Chapelhill, Caerlaverock,  
Dumfries  
1899 Cross, M. M., Annan  
1922 Crozier, Peter, Sorbie, Ewes, Langholm  
1895 Dalgleish, Robert, Brandleys, San-  
quhar  
1908 Dalgleish, Robert, Ulzieiside, Sanquhar  
1922 Dalgleish, Robert, jun., Ulzieiside, San-  
quhar  
1922 Dalziel, J., Holehouse, Tinwald  
1922 Dalziel, Robert, Rue Farm, Auldgrith  
1922 Dane, William Edgar, Manager, Dum-  
fries Station Hotel, Dumfries  
1922 Davidson, John, North Bowerhouses,  
Ruthwell  
1920 Dickie, Charles H., Morton Mill, Thorn-  
hill  
1903 Dickie, David, Tower, Sanquhar  
1921 Dickie, James, Kelton, Dumfries  
1912 Dickie, William, South Cowshaw, Loch-  
maben  
1914 Dickson, Thomas, Braehead Farm, Dum-  
fries  
1922 Dickson, W., Welltreesburn, Amisfield,  
by Dumfries  
1922 Dinwiddie, Robert, Overton, Moffat  
Road, Dumfries  
1920 Dobbie, William Buchanan, Westwater,  
Langholm  
1922 Dobie, A., Hitchell, Cummertrees,  
Annan  
1910 Dobie, William, Broombush, Lockerbie  
1903 Donaldson, Thomas, Sarkshields, Eccle-  
fechan  
1893 Douglas, Capt. Edward P., of Cavers,  
Burnfoot, Langholm  
1922 Douglas, Robert, Riggihill, Closeburn,  
Dumfries  
1910 Douglas-Menzies, Norman E., Newton-  
airs, Dumfries  
1908 Dudgeon, Brig.-Gen. Robert M., D.S.O.,  
M.C., Cargen, Dumfries  
1907 Duff, Thomas, 80 High Street, Annan  
1889 Duncan, James, East Glenarm, c/o  
R. Jackson, Bankend, Caerlaverock,  
Dumfries  
1893 Duncan, John Bryce, Newlands, Dum-  
fries  
1922 Dunlop, D., Annfield, Dumfries  
1922 Elliot, Andrew, Mosspebble, Langholm  
1922 Elliot, Christopher, Bogrie, Canonbie  
1922 Elliot, David, Ladyhousesteads, Canon-  
bie  
1922 Elliot, Thomas, Mid Knock, Westerkirk,  
Langholm  
1922 Erskine, Robert J., Courthill, Auldgrith  
1877 Farish, Samuel T., Todhillmuir, Locker-  
bie  
1921 Ferguson, James Alexander, Burrance  
of Courance, by Lockerbie  
1914 Ferguson, William, Catlins, Lockerbie  
1922 Ferguson, David, Secretary, Dumfries  
Agricultural Society, 75 Buccleuch  
Street, Dumfries  
1908 Fleming, James, of Woodhouse, Eccle-  
fechan  
1904 Fleming, John, Crowdieknowe, Eccle-  
fechan  
1910 Fleming, William, Meinfoot, Eccle-  
fechan  
1884 Fletcher, D. M., Battlehill, Annan  
1921 Forsyth, Alastair F. (The Yorkshire In-  
surance Co., Ltd.), 10 Bank Street,  
Dumfries  
1914 Forsyth, John, Stapleton Grange, Dor-  
nock, Annan  
1922 French, Thomas, Glenmanna, Penpont,  
Dumfries

Admitted

- 1898 Galbraith, Charles E., The Barony, Kirkmichael  
 1921 Galloway, William, Commercial Bank of Scotland, Dumfries  
 1922 Gardiner, John (Hunter & Gardiner, Crown Motor Works, Lockerbie), Hazeldean, Lockerbie  
 1922 Gardner, James, Byeloch, Ruthwell  
 1922 Gaskell, William Roscoe, Kirklands, Kirkconnel, Dumfries  
 1922 Gaskell, William Ross, of Auchinbrack, Tynron, Thornhill  
 1922 Gass, Mathew R., Mouswald Townhead, Ruthwell  
 1922 Gibson, Alexander, Speddock Hill, Shawhead, Dumfries  
 1922 Gibson, Andrew, Thorniethwaite, Hightae, Lockerbie  
 1922 Gibson, John, Hightown of Craigs, Dumfries  
 1904 Gibson, Thomas, Auchenerieff, Dumfries  
 1922 Gibson, Thomas, Parkburn, Kirkmahoe  
 1884 Gillespie, William, *last known address*, Alton, Moffat  
 1919 Gillies, John, Rosemount Cottage, Dumfries  
 1922 Gilmour, James A., The Lodge, Dunbar Terrace, Dumfries  
 1918 Gladstone, Hugh S., of Capenoch, Thornhill  
 1919 Glendinning, John, Nether Cassock, Langholm  
 1895 Gordon, H. S., Glensae, Amisfield, R.S.O.  
 1895 Gourlay, Francis N. M., Milton, Tynron, Thornhill  
 1921 Gracie, William, Billholm, Langholm  
 1922 Graham, David, Carlesgill, Langholm  
 1922 Graham, James, of West Main, Collin, Dumfries  
 1915 Graham, Robert, Chapel of Logan, Half-Morton, Canonbie  
 1908 Graham, Thomas, *last known address*, Mouswald Grange, Ruthwell, R.S.O.  
 1895 Graham, William, Harlawhill, Canonbie  
 1922 Graham, William, Mainholm, Ecclefechan  
 1922 Gray, Thomas, Grain Merchant, Annan  
 1895 Grierson, John, Town Clerk, Dumfries  
 1922 Grierson, Sir Robert, Bart., of Lag, Breconrae, Dumfries  
 1872 Grieve, Archibald, Albierigg, Canonbie  
 1896 Grossart, Robert F., M.R.C.V.S., Milton, Beattock  
 1922 Halliday, James, Parks Farm, Beattock  
 1920 Hamilton, John, C.A., Rosebery House, Moffat  
 1922 Hannah, Robert, Hardgrave, Ruthwell  
 1921 Hannan, Lieut.-Colonel James Menteith, East Tinwald, Lochmaben  
 1920 Harper, John, Bannan, Thornhill  
 1922 Harrison, J. R., Auctioneer, Dumfries  
 1922 Hastie, David H., Victoria Terrace, Dumfries  
 1922 Hastings, Joseph A. K., Livingstone Place, Lockerbie  
 1922 Henderson, Alexander, Gotterbie, Lockerbie  
 1922 Henderson, James, Emerald Park, Noblehill, Dumfries  
 1922 Henderson, James Roy, Capplegill, Moffat  
 1915 Henderson, John, Annandale Estates Office, Moffat  
 1919 Henderson, Thomas, Solicitor, Bank of Scotland Buildings, Lockerbie  
 1881 Henderson, W., Alton, Moffat—*Free Life Member*

Admitted

- 1922 Henderson, William, Stewarton, Moniaive, Dumfries  
 1922 Hendrie, David, Castlehill, Durisdeer, Dumfriesshire  
 1922 Heriot, William Maitland, C.B.E., of Whitecroft, Ruthwell  
 1922 Hiddleston, William A., Nithbank, Dumfries  
 1906 Hill, Basil H., Moffat  
 1922 Hill, John, South Bowerhouses, Ruthwell  
 1922 Hill, Joseph J., Battlehill, Annan  
 1920 Hodge, William, Slodahill, Lockerbie  
 1919 Hodgson, Miss Margaret Evelyn, Whitecroft, Ruthwell  
 1922 Hogg, Thomas, Cleuchfoot, Langholm  
 1920 Holtby, Edmund, Ericstane, Moffat  
 1898 Home, J. H. Milne, Irvine House, Canonbie—*Free Life Member*  
 1910 Hope-Bell, Thomas Morrington, Dumfries  
 1922 Hope-Johnstone, Evelyn Wentworth, of Annandale, Raeahills, Lockerbie  
 1895 Hoson, Ninian Wilson, Bankside, Lockerbie  
 1922 Howat, Andrew, Netherwood Farm, Dumfries  
 1922 Howat, Jasper, Nether Gribton, Holywood  
 1922 Howatson, Thomas, Calf Park, Ruthwell  
 1922 Hunter, Adam, High Street, Lockerbie  
 1922 Hunter, David (Messrs Learmonth, Hunter, & King), Dumfries  
 1922 Hunter, Robert, Auctioneer, Thornhill  
 1919 Hunter, Thomas, 24 Brewery Street, Dumfries  
 1910 Hunter-Arundell, H. W. F., Barjarg Tower, Auldgrith  
 1922 Hyslop, C. C., Kirkhill, Johnstone-bridge, Lockerbie  
 1895 Hyslop, Peter, Annan  
 1922 Hyslop, Thomas, Lyneholm, Langholm  
 1895 Irvine, Wm., Job and Postmaster, Dumfries  
 1895 Irving, David A., Cowburn, Lockerbie  
 1883 Irving, D. J. Bell, Whitehill, Lockerbie  
 1904 Irving, Francis, Pennersaugh, Ecclefechan  
 1922 Irving, George, Glenzierhead, Canonbie  
 1885 Irving, H. C., of Burnfoot, Ecclefechan  
 1895 Irving, John Bell, of Milkbank, Lockerbie  
 1922 Irving, John, Coatston, Moniaive  
 1922 Irving, John W., Muirhousehead, Lockerbie  
 1922 Irving, Joseph, Greenwrae, Gretna  
 1922 Irving, William, jun., Boreland, Dunscore  
 1920 Irving, William, North Lodge, Castle-milk, Lockerbie  
 1922 Jackson, James, Beechwood, Lockerbie  
 1905 Jackson, Stanley, Moniaive (Larchmont, Troon)  
 1895 Jackson, Thomas, 24 Brewery Street, Dumfries  
 1922 Jamieson, John, Roundbush, Annan  
 1922 Jamieson, William, Seedsman, Annan  
 1893 JARDINE, Sir Robert W. Buchanan, of Castlemilk, Bart., Lockerbie  
 1922 Jardine, William, Annanbank Farm, Johnstonebridge, Lockerbie  
 1890 Jeffrey, John J., Howdale, Lockerbie—*Free Life Member*  
 1908 Johnson-Ferguson, A., yr. of Springkell, Ecclefechan

## Admitted

- 1903 JOHNSON-FERGUSON, Sir J. E., of Springkell, Bart., Ecclefechan  
 1895 JOHNSTON, Archibald F. Campbell, *last known address*, Carnsalloch, Dumfries  
 1922 JOHNSTON, Richard, Stoneyles, Canonbie  
 1898 JOHNSTON, Wm., of Amisfield, Dumfriesshire (81 Hope Street, Glasgow)  
 1923 JOHNSTONE, Andrew, Whitesands, Dumfries  
 1923 JOHNSTONE, James, Beckton Hall, Half-Morton, Canonbie  
 1910 JOHNSTONE, John, of Halleaths, Lockerbie  
 1921 JOHNSTONE, John, Millantae, Lockerbie  
 1922 JOHNSTONE, Thomas, Tomshielburn, Canonbie  
 1923 JOHNSTONE, Walter, c/o J. Charlton & Sons, Dumfries  
 1910 JOHNSTONE, William, Whitesands, Dumfries  
 1923 KEENLYSIDE, Tom Hall, Preston Hall, Annan  
 1906 KENNEDY, James D., Castlehill, Dumfries  
 1903 KENNEDY, William, Luce Mains, Ecclefechan  
 1922 KER, John Thomson, Spittalriddinghill, Annan  
 1923 KERR, A., Fernyleuch, Lochmaben  
 1923 KERR, George R., 23 Charles Street, Annan  
 1923 KERR, John, Shearington, Caerlaverock  
 1910 KERSS, John S., Hope Cottage, Ruthwell  
 1910 KESWICK, Major Henry, of Cowhill Tower, Dumfries  
 1923 KIRK, James, Kirkpatrick, Auldgrith  
 1919 KIRK, Thomas, Williamsfield, Auldgrith, Dumfries  
 1922 KIRKPATRICK, Alexander, Barr, Sanquhar  
 1923 KIRKPATRICK, Archibald, Barr, Sanquhar  
 1922 KIRKPATRICK, David, North Drumlanrig Street, Thornhill  
 1910 KIRKPATRICK, James A., Longbridgenuir, Ruthwell  
 1922 KIRKPATRICK, Joseph, 8 North Drumlanrig Street, Thornhill  
 1910 KIRKPATRICK, William, 12 Queensberry Terrace, Cummertrees, Annan  
 1907 KIRKPATRICK, William, Auctioneer, Annan  
 1922 LAIDLAW, Andrew Glendinning, 84 High Street, Lockerbie  
 1923 LAIDLAW, James, Glengar, Penpont, Dumfries  
 1889 LAIDLAW, Thomas R., Norton, Moffat  
 1923 LAMMIE, Thomas, Chapel Farm, Moffat  
 1920 LANDALE, David, Dalswinton, Kirkmahoe, Dumfries  
 1902 LANDALE, Napier, Dumfries  
 1923 LATIMER, R. R., 22 Carlyle Place, Annan  
 1903 LAVAIN, Colonel Sir C. V. E., of Maxwellton, Bart., D.S.O., Maxwelltown House, Thornhill  
 1922 LEE, Alexander, Cowhill House Farm, Holywood, Dumfries  
 1895 LINDSAY, James, V.S., Whitesands, Dumfries  
 1923 LINDSAY, John, Carterton, Lockerbie  
 1923 LINDSAY, William, Cogries, Beattock  
 1895 LINDSAY, William, West Roucan, Dumfries  
 1921 LITTLE, David, Corrieballs, Lockerbie  
 1923 LITTLE, James, "Colwyn", Cassalsda, Dumfries

## Admitted

- 1910 LITTLE, James, Craig, Westerkirk, Langholm  
 1922 LITTLE, James, Shillingland, Montaive  
 1919 LITTLE, Miss Jennie Murray, Summerhill, Annan  
 1922 LITTLE, John, Beckhall, Canonbie  
 1888 LITTLE, Murray, Summerhill, Annan  
 1919 LITTLE, Robert Elliot, Burnfoot-Ewes, Langholm (c/o D. Brown, Blorchairn, Dalmally, Oban)  
 1923 LITTLE, Walter, Stanhope, Ruthwell  
 1895 LITTLE, William, Rivoz, Moffat  
 1895 LORIMER, William, Moffat  
 1895 LYON, J. Stewart, of Kirkmichael, Jessfield, Amisfield, Dumfries  
 1910 M'ALLISTER, A. W., Seedsman, Dumfries  
 1910 MACARA, Graham F., Grain Merchant, Montaive  
 1922 M'Burnie, John, The Garth, Dumfries (Sheriff Clerk's Office, Dumfries)  
 1923 M'CALL, Robert, 7 Assembly Street, Dumfries  
 1899 M'CALL, Thomas, Johnstone Place, Lockerbie  
 1895 M'CALL, Major William, of Catloch, Montaive  
 1913 M'Cartney, William Murdoch, Lochbrow, Lockerbie  
 1920 M'CLANACHAN, Andrew, Nether Dargavel, Dumfries  
 1907 M'CLURE, James, Clydesdale Bank, Lockerbie  
 1922 M'CONNEL, Cecil, yr. of Ellock, Ellock, Sanquhar  
 1911 M'CONNEL, James Irving, of Ellock, Sanquhar  
 1922 M'CORMACK, Robert, Woodlandbanks, Hightae, Lockerbie  
 1922 M'CRONE, Robert, Poundland, Dunscore  
 1922 MACDONALD, D. J., Annandale Arms, Moffat  
 1893 MACDONALD, Major William Bell, of Rammerscales, Lockerbie  
 1878 MACFARLAN, George, Closeburn Mains, Thornhill  
 1900 MACGREGOR, Peter, Factor, Springkell, Ecclefechan  
 1887 M'JANNET, F. G., *last known address*, Gateslack, Thornhill  
 1888 M'JERROW, David, Solicitor, Lockerbie  
 1894 M'JERROW, James Ewart, Fairfield, Lockerbie  
 1910 M'KERROW, William, Broomhill, Lochmaben  
 1922 MACKIE, Hugh J., Gretna House, Gretna Green  
 1922 MACKIE, James, Relief, Ecclefechan  
 1923 MACKIE, James C., Dornock Mains, Annan  
 1922 MACKIE, John, Broomhouses, Lockerbie  
 1923 MACKIE, John, Dalbible, Dumfries  
 1922 MACMILLAN, Miss A. M. G., Woodlea, Montaive  
 1922 MACMILLAN, Miss E. W. T., Woodlea, Montaive  
 1895 MACMILLAN, John J., Glencrosh, Montaive  
 1923 MACMILLAN, Miss M. M. G., Woodlea, Montaive  
 1920 M'MILLAN, Nigel Ian, The Knowe, Kirkconnel  
 1895 MACMILLAN, Robert, of Holm of Dalquhairn, Woodlea, Montaive  
 1895 MACMILLAN, Thomas, Glencrosh, Montaive  
 1922 M'MURDO, Captain James Norman, M'Murdoon, Dumfries  
 1922 M'MURDO, John J., of M'Murdoon, Dumfries

Admitted

- 1922 M'Murtrie, William, Gillenbie, Lockerbie  
 1922 Marshall, Ebenezer, Green Farm, Loch-arbriggs  
 1919 Martin, John Clement, *last known address*, Cowhill Home Farm, Dumfries  
 1922 Martin, William James, Merkland, Penpont, Dumfries  
 1922 Martindale, Edward, Townfoot, Ruthwell  
 1922 Mather, John, 5 Municipal Terrace, Dumfries  
 1918 Mather, William, Dinwoodie Mains, Lockerbie  
 1919 Matthews, Peter A., 10 Bank Street, Dumfries  
 1922 Maxwell, Alexander, Shaw of Dryfe, Lockerbie  
 1889 Maxwell, Charles H., of Dalruscan, Dumfries  
 1922 Maxwell, James H., Hayfield, Thornhill  
 1919 Maxwell, John, Birkhall, Holywood, Dumfries  
 1922 Maxwell, M'Kill, Coshogle, Thornhill  
 1910 Maxwell, Robert, 98 Irish Street, Dumfries  
 1900 Maxwell, R. N., Parkgate, Annan  
 1900 Maxwell, Wellwood Hyslop, Steilston House, Dumfries  
 1911 Medlock, Fred. W., M.R.C.V.S., County Buildings, Dumfries  
 1911 Melsegaes, Ary, Longwood, Langholm  
 1922 Melrose, John William, 50 Cardoness Street, Dumfries  
 1922 Melville, Colonel E. P. A., of Gillesbie, Lockerbie  
 1910 Millar, John E., The Ridge, Eastriggs, Dornock, Annan  
 1896 Millar, William J., Engineer, Annan  
 1920 Miller, Robert, Lakehead, Closeburn, Dumfries  
 1922 Milligan, A. J., M.R.C.V.S., Ednam Street, Annan  
 1910 Milligan, Fergus J. D., Merkland, Auld-girth  
 1895 Milligan, George F., Burnmouth, Thornhill  
 1904 Milligan, Samuel, M.A., B.Sc., Langlands, Dumfries  
 1922 Milligan, William, Burnmouth, Thornhill  
 1886 Milne, Thomas, Grain Merchant, 18 Livingstone Place, Lockerbie  
 1920 Milvain, James Cowan, Leafield House, Dumfries  
 1895 Moffat, Francis, Craigbeck, Moffat  
 1922 Moffat, George L., Livingstone Place, Lockerbie  
 1898 Moffat, James, Gateside, Sanquhar  
 1888 Moffat, William, Garwald, Langholm  
 1895 Moffat, W. Kennedy, of Auchencheyne, Monlaive  
 1910 Moffat, Captain W. M., Merlewood, Moffat  
 1922 Morgan, Robert L., Rockhall, Dumfries  
 1922 Morrison, Thomas, Eldin, Moffat Road, Dumfries  
 1908 Morton, Hugh, Kirkhill, Wamphray, Beattock  
 1910 Morton, John, Lamont, Lockerbie  
 1920 Muir, John, Rockhall Mains, Dumfries  
 1922 Murdoch, John, Auchengassel, Thornhill  
 1922 Murray, Edward, Conneath, Caerlaverock, Dumfries  
 1895 Murray, John, Castlemilk Mill, Lockerbie

Admitted

- 1898 Murray, William, Kirkland, Closeburn  
 1922 Nelson, George, Eaglesfield, Lockerbie  
 1922 Nelson, Walter M., Outertown, Annan  
 1922 Nichol, Thomas, Hugharigg, Canonbie  
 1922 Nicholson, Christopher, Nethertown, Cummertrees, Annan  
 1922 Nicholson, James, Nethertown, Cummertrees, Annan  
 1910 Nicol, Robert P., Newfield, Ecclefechan  
 1923 Nisbet, John L., West Roucan, Torthorwald, Dumfries  
 1922 Osborne, Matthew Muir, Morton Mains, Thornhill  
 1890 Osborne, Robert, Morton Mains, Thornhill  
 1923 Paterson, James, Dovecotwells, Caerlaverock, Dumfries  
 1910 Paterson, J. Jardine, of Brocklehirat, Ruthwell  
 1908 Paterson, James J., Terrons, Langholm  
 1905 Paterson, James S., Quhytewoolen, Lockerbie  
 1922 Paterson, John, Mount Sydney, Craig Road, Dumfries  
 1908 Paterson, Robert, Holms, Beattock  
 1900 Paterson, Robert Jardine, of Balgray, Lockerbie  
 1922 Paterson, Thomas Craig, Woodend Farm, Beattock  
 1922 Paterson, William, Broadgate, Ruthwell  
 1885 Paterson, William E., Craigdarroch, Sanquhar  
 1922 Paton, John, Chanlockfoot, Penpont, by Thornhill  
 1920 Patterson, George, of Carruthers, Waterbeck, Lockerbie  
 1922 Pattie, Thomas, Muirfield, Lochmaben  
 1884 Pearson, A. G., of Luce (49 Mardale Crescent, Edinburgh)  
 1922 Pender, James, 44 Townhead, Lockerbie  
 1922 Phillips, Archibald, Barnmuir, Closeburn, Dumfries  
 1922 Pollock, David, Logan House, Canonbie  
 1922 Preston, Alexander, Marchfield Farm, Dumfries  
 1884 Primrose, John, Arundel House, Dumfries  
 1895 Primrose, Robert, *last known address*, Kirkbog, Thornhill  
 1922 Purdie, R., Catherinefield Farm, Loch-arbriggs  
 1892 Ralston, Charles W., Dabton, Thornhill  
 1895 Rankin, John S., Waulkmill, Thornhill  
 1920 Rathbone, Lorents, M.B., Carzield, Kirkmahoe, Dumfries  
 1895 Reid, James S., Westwood, Dumfries  
 1922 Renwick, John B., Castle Hill, Monlaive  
 1922 Richardson, Emerson, Kirkbeck, Ruthwell  
 1922 Richardson, George, Balgray Home Farm, Lockerbie  
 1895 Richardson, James, Boreland, Caerlaverock, Dumfries  
 1922 Richardson, James, Muirhead, Lockerbie  
 1922 Richardson, Robert, Daltonhook, Lockerbie  
 1884 Richardson, William, Garpel, Lochmaben  
 1895 Richardson, William, *last known address*, Douglas Lodge, Moffat  
 1922 Ritchie, Andrew, Whins, Ecclefechan

Admitted  
 1923 Ritchie, Peter B., Langdyke, Ecclefechan  
 1917 Robinson, Joseph, Cereal House, Annan  
 1917 Robinson, Robert, Cereal House, Annan  
 1898 Robson, John, County Buildings, Dumfries  
 1884 Roddick, Frank, Trailtrow, Ecclefechan  
 1922 Rogerson, David, Dinwoodie Green, Lockerbie  
 1920 Rollo, Hon. Gilbert, The Hope, Moffat  
 1920 Rome, H. F., 20/26 Lady Street, Annan  
 1922 Rome, John, Fauldie, Canonbie  
 1922 Russell, William, Longmire, Thornhill  
 1895 Rutherford, Sir John, Summerhill, Annan  
 1922 Scott, George, Lagg, Dunscore  
 1922 Scott, George B., Newbie Mains, Annan  
 1922 Scott, John, Annandale House, Lockerbie  
 1922 Scott, John C., Aiket, Ruthwell  
 1908 Scott, John W., The Broom, Lockerbie  
 1922 Scott, Joseph F., Dryfe Brig, Rae Street, Dumfries  
 1893 Scott, William Black, Ashley Bank, Langholm  
 1903 Scrimgeour, James, Bogus Farm, Ecclefechan  
 1922 Sharp, Alexander M., Mouswald Banks, Dumfries  
 1922 Sharpe, George, sen., Mouswald Banks, Ruthwell  
 1922 Shaw, James, Glengower, Holywood, Dumfries  
 1922 Short, William, Craighaugh, Langholm  
 1922 Shuttleworth, Alexander J., Lower Almagill, Hightae, Lockerbie  
 1922 Shuttleworth, John B., Lower Almagill, Hightae, Lockerbie  
 1919 Simpson, Alex. (Messrs T. & R. Carlyle), Seed Merchants, Dumfries  
 1922 Simpson, John, Emerald Park, Annan Road, Dumfries  
 1923 Sinclair, W. A., 9 Irving Street, Dumfries  
 1910 Slack, John, Tanlaw Hill, Boreland, Lockerbie  
 1922 Sloan, James, Wyseby Mains, Kirtlebridge, Dumfries  
 1919 Sloan, Hugh, Rigg, Kirkconnell  
 1907 Sloan, Mungo, Douglasshall, Ecclefechan  
 1922 Sloan, Thomas, Fountainbleau, Dumfries  
 1918 Sloan, William, Shawsmuir, Closeburn, Thornhill  
 1922 Smith, George M., Smithtown, Kirkmahoe  
 1920 Smith, John, 28 Rae Street, Dumfries  
 1895 Smith, Matthew, Netherholm, Kirkmahoe  
 1922 Smith, M. P., 85 High Street, Dumfries  
 1922 Sperling, St John V. H., Rammerscales, Hightae, Lockerbie  
 1922 Sprague, Lieut.-Colonel Basil E., D.S.O., of Denbie, Lockerbie  
 1895 Steel, Arthur Jackson, of Kirkwood, Lockerbie  
 1895 Steel, James, 28 Catherine Street, Dumfries  
 1910 Steel, William, Elmbank, Lockerbie  
 1921 Stevenson, Andrew C., Hillhead, Canonbie, Dumfries  
 1922 Stevenson, George, Solicitor, Town Hall Buildings, Lockerbie  
 1922 Stevenson, James, Muirhill, Thornhill

Admitted  
 1869 Stewart, D. W., Annan Lea, Moffat  
 1922 Stewart, Hugh, Hurlkedale, Cummertrees, Annan  
 1900 Stewart, M. Muir, Dixons, Lockerbie  
 1922 Stewart, Robert F., Hailydikes, Lockerbie  
 1922 Stewart, T. J., Broom, Annan  
 1886 Stobo, James, 101 Queen Street, Dumfries  
 1912 Stobo, Thomas, of Kilroy, Auldgrith, Dumfries  
 1921 Strathdee, James, Park House, Ecclefechan  
 1922 Strawhorn, Ritchie, Nether Garrel, Courance, Dumfries  
 1922 Struthers, James, Clarencefield, Ruthwell  
 1922 Struthers, Robert, Arkland, Penpont, Dumfries  
 1908 Synington, Archibald, of Allanton, Auldgrith  
 1923 Templeton, Alexander, Blackpark, Auldgrith  
 1922 Thomson, Francis, Newark, Sanquhar  
 1910 Thomson, J., Auctioneer, Annan  
 1922 Thomson, Matt. J., Rose Cottage, Annan  
 1922 Thomson, Robert, March Hill, Dumfries  
 1922 Thomson, Thomas, March Hill, Dumfries  
 1922 Thomson, Thomas, jun., March Hill, Dumfries  
 1879 Tod, William, Halleaths Farm, Lochmaben  
 1922 Todd, William, Knockaughley, Moniaive  
 1922 Turnbull, Matthew C., Hartfield, Johnstone, Lockerbie  
 1902 Urquhart, Joseph, 3 The Ridge, Eastriggs, Annan  
 1922 Walker, Captain George G., of Crawfordton, by Thornhill  
 1922 Walker, James, Kirkton, Lockerbie  
 1920 Wallace, Hugh, Scalehill, Lockerbie  
 1889 Wallace, John William, Ford, Thornhill  
 1920 Wallace, Quintin, Ford, Thornhill, Dumfries  
 1885 Wallace, S. Williamson, Kelton, Dumfries  
 1922 Ward, James, of Woodhead, Moffat  
 1922 Wardrop, George, Nutholmhill, Lockerbie  
 1922 Warwick, Archibald, Gillbrae, Ruthwell  
 1922 Warwick, James, Denbieyett, Ruthwell  
 1922 Watson, Robert, Upper Portrack, Auldgrith  
 1922 Watson, T. B., 3 English Street, Dumfries  
 1922 Watt, Miss D. Y. Elise, N.D.D., Dempsterton, Auldgrith  
 1922 Waugh, Robert, Burnhead, Auldgrith  
 1922 Webb, Captain C. St L., Craigabells, Newall Terrace, Dumfries  
 1922 Weir, Adam, Ironhirst, Ruthwell  
 1914 Weir, James, Drumcraigh, Thornhill  
 1922 White, John, Aldworth, Noblehill, Dumfries  
 1922 White, Robert, Smallholm Burn, Hightae, Lockerbie  
 1886 Whitelaw, James W., Solicitor, Dumfries  
 1896 Will, George, Orichton Royal Institution, Dumfries  
 1922 Will, William J., Acrehead, Dumfries

**Admitted**

- 1922 Williams, H., Cowhill Estate Office, Holywood  
 1921 Williamson, George, jun., Cadgillhead, Canonbie  
 1920 Williamson, Robert, Cadgillhead, Canonbie  
 1922 Wilson, Alexander Milroy, Broomhillbank, Lockerbie  
 1918 Wilson, Andrew, Easlie, Lochmaben  
 1922 Wilson, David, Auchenhessane, Penpont, Dumfries  
 1922 Wilson, David, Newmains, Keir, by Thornhill  
 1900 Wilson, James, Tundergarth Mains, Lockerbie  
 1895 Wilson, John, Boghead, Dumfries  
 1878 Wilson, F. M., Broomhillbank, Lockerbie  
 1922 Woodburn, John, Castlemilktown, Lockerbie  
 1877 Wright, Thomas, Gowanlea, Holywood  
 1922 Wyllie, David, Upper Mains, Annan  
 1903 Wyllie, James, Bankhead, Lochmaben  
 1895 Wyllie, James, Grain Merchant, Elmbank, Dumfries  
 1919 Wyllie, James, Tinwald Downs, Dumfries  
 1919 Wyllie, James, jun., Newall Terrace, Dumfries  
 1922 Wyllie, John, Whitehill, Sanquhar  
 1919 Wyllie, Matthew S., Elmbank, Dumfries  
 1922 Wyllie, Robert Alfred, Elmbank, Dumfries  
 1919 Wyllie, William, Mid Dargavel, Dumfries  
 1922 Young, Alex., Tail, Langholm  
 1922 Young, Andrew, V.S., 42 George Street, Dumfries  
 1895 Young, Homer, Redhills, Dumfries  
 1920 Young, James, Steddings, Beattock  
 1922 Young, James F., Mouswald Schoolhouse, Ruthwell, R.S.O.  
 1920 Young, John, Redhills, Torthorwald, Dumfries  
 1922 Young, John M'D., Robgill Mains, Kirtlebridge, Dumfries  
 1910 Young, Sir William, Bart., Auchan Castle, Moffat

**KIRKCUDBRIGHT.**

- 1908 Adamson, J. W. Mackie, Balmangan, Kirkcudbright  
 1895 Adamson, Robert, W.S., of Drumclyre, Dumfries  
 1922 Allan, Robert, Kilmichael, Castle-Douglas  
 1922 Allison, James, Garmartin, Dalbeattie  
 1922 Anderson, James, Campbelltown, Twynholm, R.S.O.  
 1922 Anderson, Robert, Mill Bank, Haugh-of-Urr, Dalbeattie  
 1922 Anderson, William, Whiteside, Kirgunzeon  
 1894 Armitage, Arthur Calrow, of Kirroughtree, Newton-Stewart  
 1922 Armstrong, G. W., Langbarns, Kirkcudbright  
 1904 Armstrong, Robert, Littleton, Gatehouse  
 1922 Austin, Alex. Douglas, Dundrennan House, Kirkcudbright  
 1922 Austin, Robert, Boreland of Girthon, Gatehouse-of-Fleet

**Admitted**

- 1922 Austin, Captain William, M.C., Ingleston, Twynholm, R.S.O.  
 1914 Bain, Coll Macdonald, Auchengibbert, Crocketford, Dumfries  
 1922 Baird, Hugh G., Kirkchrist, Kirkcudbright  
 1922 Baird, J. Gilmour, Kirkchrist, Kirkcudbright  
 1922 Barber, James C., Carleton, Borgue  
 1922 Barbour, Robert, Rockville, Castle-Douglas  
 1922 Barbour, Robert, Tallowquhairn, Kirkbean, Dumfries  
 1889 Barbour, William, Strathdee, Kirkcudbright  
 1922 Barbour, William Sinclair, Strathdee, Kirkcudbright  
 1922 Barr, John, Valleyfield, Ringford  
 1922 Barrowman, Andrew, Corrahill, Castle-Douglas  
 1922 Barrowman, John D., Corrahill, Castle-Douglas  
 1922 Bell, John, Rascarrel, Castle-Douglas  
 1922 Bickerstaff, Thomas, Bombie Glen, Kirkcudbright  
 1922 Bicket, James, Gerranton, Castle-Douglas  
 1922 Biggar, J. M. R., Newton House, Dalbeattie  
 1922 Biggar, Thomas, Hazeldene, Castle-Douglas  
 1907 Biggar, Walter, Grange Farm, Dalbeattie  
 1886 Biggar, William, Corbieaton, Castle-Douglas  
 1922 Biggar, W. T., Montrose, Dalbeattie  
 1922 Black, Robert (of Rogerson & Black), Kirkcudbright  
 1895 Blackley, John, Lochfield, Maxwelltown, Dumfries  
 1922 Blacklock, Samuel, Little Sypland, Kirkcudbright  
 1903 Bone, James, Brooklands, Crocketford, Kirkcudbright  
 1921 Bristowe, Sydney C., of Craig, Balmaclellan, Kirkcudbrightshire  
 1922 Brown, Lieut-Colonel Adam, County Buildings, Kirkcudbright  
 1910 Brown, John T., Hermitage, Dalbeattie  
 1922 Brown, J. Douglas, of Knockbrex, Borgue  
 1922 Brown, Mrs. Knockbrex, Kirkcudbright  
 1922 Brown, Quintin, Argrennan, Castle-Douglas  
 1910 Brown, Robert Coniston, Rotchell Park, Maxwelltown, Kirkcudbrightshire  
 1919 Brown, Sam., Culraven, Kirkcudbright  
 1922 Brown, William, Chapelton, Kerrick, Castle-Douglas  
 1903 Brown, William, of Netherlaw, Kirkcudbright  
 1920 Brown, William Elliot, jun., Netherlaw, Kirkcudbright  
 1919 Bryson, George, Boreland, Parton, Galloway  
 1922 Bryson, Miss Jean, Boreland, Parton, Galloway  
 1922 Bryson, Mungo, Boreland, Parton, Galloway  
 1922 Callender, Alex., Largs, Twynholm  
 1895 Callender, Gavin, Palmerston Iron Works, Dumfries  
 1922 Campbell, John, Kirkbride, Castle-Douglas  
 1922 Campbell, John, Laurel Bank, Castle-Douglas  
 1885 Campbell, Robert J., Cull, Castle-Douglas—Free Life Member



## Admitted

- 1923 Campbell, William, Auchlane, Castle-Douglas  
 1903 Campbell, Wm. George, High Borgue, Twynholm, Castle-Douglas  
 1923 Campbell, William Samuel, High Borgue, Twynholm, R.S.O.  
 1879 Cannon, James, Crown Place, Castle-Douglas—*Free Life Member*  
 1923 Carson, James, Barwhillanty Farm, Parton, Galloway  
 1923 Carson, James, Pearmount, Dumfries  
 1903 Cathcart, Major F. A., of Drumgrange, Ardence, Kirkcudbright  
 1923 Chrystal, Thomas L., Ermenzie, Castle-Douglas  
 1923 Clark, G., Newmains, Kirkbean, Dumfries  
 1895 Clark, William, Whiteyard, Lochfoot, Dumfries  
 1923 Clement, A. M., Howell, Kirkcudbright  
 1923 Clement, T. G., Howell, Kirkcudbright  
 1903 Coats, W. A., of Dalskairth, Dumfries  
 1923 Cochrane, Alex., Little Richorn, Dalbeattie  
 1923 Cochrane, W. R., Little Richorn, Dalbeattie  
 1903 Cochrane, William, Torrorie, Preston Mill, Kirkbean, Dumfries  
 1923 Connell, John, South Carse, Kirkbean, Kirkcudbright  
 1896 Copland, Thomas, Lochfoot, Dumfries  
 1923 Corrie, Adam, Auchengool, Rerrick, Castle-Douglas  
 1923 Corrie, James, Kirkconnel, Ringford  
 1923 Corrie, R., West Ardwall, New Abbey, Dumfries  
 1899 Corrie, Thomas, Southpark, Kirkcudbright  
 1923 Cowan, Henry, South Corbally, New Abbey Road, Kirkbean, Dumfries  
 1921 Cowan, William, Ingleston, New Abbey, Dumfries  
 1919 Craig, John Currie, Bishopton, Kirkcudbright  
 1918 Cranston, J. G. M., Nunland, Dumfries  
 1923 Crawford, Hugh, 78 Cotton Street, Castle-Douglas  
 1894 Crawford, Hugh W. B., Forneth, Castle-Douglas  
 1921 Crawford, James B., Caigton, Castle-Douglas  
 1920 Crawford, Walter, Chapmanton, Castle-Douglas  
 1923 Crosbie, William, Billies, Castle-Douglas  
 1923 Cross, Thomas, St Mary's Isle Estate Office, Kirkcudbright  
 1923 Cruickshank, John, Castlecreavie, by Castle-Douglas  
 1923 Cruickshank, John, Kempleton, Twynholm, R.S.O.  
 1923 Cruickshank, William, Redfield, Twynholm, R.S.O.  
 1889 Cunningham, John, Tarbreoch, Dalbeattie  
 1923 Dalziel, Adam, Maxwell Bank, New Abbey, Dumfries (Kirkcudbright)  
 1923 Dixon, John Bedford, of Barbeth, New Abbey  
 1923 Dobie, Harold, 112 Queen Street, Castle-Douglas  
 1923 Donald, Alexander, Chief Constable, Kirkcudbright  
 1895 Douglas, John, Franklin, Castle-Douglas  
 1910 Douglas, Peter C., Rosebank Poultry Farm, Terregiestown, Dumfries  
 1923 Douglas, Captain J. B., Barstibly, Castle-Douglas

## Admitted

- 1910 Douglas, Peter C., No. 10 (Holding Terregiestown, Kirkcudbright  
 1895 Douglas, Thomas, Ardale, Castle-Douglas  
 1922 Downey, W. J., Carisbrooke, New Abbey Road, Maxwelltown, Dumfries  
 1923 Drummond, James, Mersehead, Southwick, Dumfries  
 1903 Dudgeon, Major Cecil Randolph, M.P., Cargen Holm, Dumfries  
 1921 Dudgeon, Mrs Grizel, Cargen Holm, Dumfries  
 1877† Dudgeon, Colonel R. F., C.B., of Cargen, Dumfries  
 1910 Dunbar, Colonel Sir Charles Dunbar Hope, of St Mary's Isle, Kirkcudbright  
 1903 Dunbar, Lieut.-Colonel Robert Lennox Nugent, of Machermore, Newton-Stewart  
 1923 Duncan, David, Balmoe House, Kirkcudbright  
 1921 Duncan, Peter, Muncraig, Borgue  
 1923 Duncan, William, Muncraig, Borgue  
 1906 Dunlop, George, Craigtraploch, Kirkcudbright  
 1895 Edgar, James, Kelton Mains, Castle-Douglas  
 1922 Edgar, Thomas, Newfield, Dairy, Kirkcudbright  
 1920 Elliot, Captain George T. Scott, Drumwhill, Mossdale  
 1919 Elliot, Captain Walter D., Palgown, Bargrennan, Kirkcudbright  
 1923 Ewart, Samuel, Melkie Firthead, Dalbeattie  
 1922 Farish, George, Culloch, Dalbeattie  
 1923 Farries, Francis, Risk, Castle-Douglas  
 1923 Farries, James, Boreland, Balmaghie, Castle-Douglas  
 1922 Fergusson, Hugh, Bridgestone, Castle-Douglas  
 1922 Finlay, John, The Ross, Kirkcudbright  
 1895 Fleming, Charles J. N., Terregies Banks, Dumfries  
 1895 Fraser, Hugh, Auchenhay, Corsock, Dalbeattie  
 1921 Fraser, John, Barmark, Corsock, Dalbeattie  
 1922 Fyfe, Ernest, St Margaret's Villa, Pleasance Avenue, Maxwelltown, Dumfries (Kirkcudbright)  
 1915 Gardiner, John, Upper Rusko, Gatehouse  
 1920 Gibson, Hugh, Priestlands, Dumfries  
 1920 Gibson, James, Priestlands, Dumfries  
 1923 Gibson, John, National Bank of Scotland, Kirkcudbright  
 1923 Gifford, Patrick, Solicitor, Castle-Douglas  
 1923 Gilchrist, James, Ewanston, Balmacellian, Kirkcudbright  
 1914 Gilchrist, Miss, Thorniehill, Balmacellian  
 1882 Gillespie, Denholm, Park Hall, Maxwelltown, Dumfries  
 1910 Gillespie, Douglas, Factor, Castle-Douglas  
 1923 Gillespie, R. C., W.S., Castle-Douglas  
 1888 Gillespie, William, Solicitor, Castle-Douglas  
 1919 Gilmour, Captain J. M., M.O., Chapelton, Borgue, Kirkcudbright  
 1886 Gilmour, W. F., Balmangan, Kirkcudbright  
 1920 Girdwood, David, jun., Marbrack, Carsphairn  
 1923 Gordon, William Edward, Dunlop, Castle-Douglas

**Admitted**

- 1904 Graham, John, Barharrow, Gatehouse  
 1895 Graham, Robert, Auchengassel, Twynholm  
 1878 Gray, Adam, Ingleston of Borgue, Kirkcudbright  
 1915 Gray, Adam, jun., Ingleston, Borgue, Kirkcudbright  
 1920 Grierson, Captain E., *last known address*, of Halket Leathes, Castle-Douglas  
 1922 Grierson, James, Orroland, Castle-Douglas  
 1922 Grierson, James, Stockerton, Kirkcudbright  
 1922 Grierson, Joseph J., Auchenlarie, Gatehouse-of-Fleet  
 1920 Haggas, Herbert, Barnsoul, Irongray, Dumfries  
 1922 Haining, Sam., 3 Castle Street, Kirkcudbright  
 1922 Halliday, John, Meikle Kirkland, Crockettford, Dumfries  
 1920 Hamilton, Tom, Whiteside, Gatehouse  
 1922 Hannah, R. B. S., Angel Hotel, Gatehouse-of-Fleet  
 1922 Hannay, Lieut. - Colonel Frederick Rainsford, C.M.G., D.S.O., Oardoness, Gatehouse-of-Fleet  
 1922 Hannay, Robert, Tarff, Ringford  
 1922 Hastings, Hugh, Powmillmount, Kirkbean, Dumfries (Kirkcudbright)  
 1876 Hayman, John, Queenshill, Ringford  
 1922 Hayman, John, jun., Glentarf, Ringford  
 1922 Henderson, Thomas, Newark Farm, Crockettford, Dumfries  
 1922 Hendry, John, Chapel, Ringford, Castle-Douglas  
 1922 Hendry, William, Chapel, Ringford  
 1910 Henryson-Caird, Captain Alister James, yr. of Cassenary, Creetown  
 1895 Herries, Colonel William D. Y., of Spottes, Dalbeattie  
 1922 Hodge, David, Fintloch, New Galloway  
 1922 Hogg, James, Enrick, Gatehouse - of - Fleet  
 1922 Holmes, Emra, Belmont, Kirkcudbright  
 1922 Hood, Thomas, Netherfield, Lochanhead Road, Dumfries  
 1884 Hood, William, Balmac, Kirkcudbright  
 1887 Hope, Captain Thomas, Summerhill, Dumfries  
 1922 Hopkins, Major Ian Broughton, Lochenebreck, Mossdale, Kirkcudbrightshire  
 1922 Hopkins, Mrs Violet Maud, Lochenebreck, Mossdale, Kirkcudbrightshire  
 1914 Houston, David, Overlaw, Kirkcudbright  
 1922 Howat, Andrew, Chapelarne, Dalbeattie  
 1869 Hume, Colonel A., of Auchendolly, Dalbeattie  
 1922 Hunter, John, Bogue, Dairy  
 1907 Hunter, Robert, Woodside, Kirkbean, Dumfries  
 1880 Hutchison, Graham, of Balmaghie, Castle-Douglas  
 1904 Hutchison, Major James Laurie M'Kie, Rockpark, Castle-Douglas  
 1920 Hutton, John, Corra, Castle-Douglas  
 1922 Hutton, Samuel S., Buittle Mains, Dalbeattie  
 1922 Hyslop, Daniel, Holehouse, Dalbeattie  
 1922 Hyslop, George, Cowar, Dalbeattie  
 1922 Jardine, George, Hallcroft, Dalbeattie  
 1922 Johnston, Hugh W., Ryedale House, Maxwelltown  
 1922 Johnston, William, jun., College Mains, Maxwelltown

**Admitted**

- 1922 Johnstone, Allan, Glaisters, Corsock, Dalbeattie  
 1920 Johnstone, Joseph, Glaisters, Corsock, Dalbeattie  
 1922 Johnstone, Robert, Blackloch, Gatehouse-of-Fleet  
 1922 Johnstone, Robert, Linkins, Castle-Douglas  
 1922 Johnstone, Robert, The Park, Maxwelltown  
 1922 Johnstone, Walter, Birkhill, Cross-michael, Castle-Douglas  
 1922 Kelly, Judge William J., Ferguslea, Maxwelltown  
 1878 Kennedy, J. M., of Knocknalling, Dairy, Galloway  
 1922 Kerr, Peter, Shiel, New Galloway  
 1922 Kerr, William, Campdouglas, Castle-Douglas  
 1922 Kincaid, John, Corseyard, Borgue  
 1922 Kirkland, Robert, Cowcorse, Prestonmill, Dumfries  
 1895 Kirkpatrick, Thomas, Trostan, Monialve  
 1878 Kirwan, L. M., Collin, Auchencairn  
 1891 Kirwan, Major W. F. Maitland, *last known address*, Gelston, Castle-Douglas  
 1922 Laing, Hugh, of Barscobe, Balmacellian (Scaleby Castle, Carlisle)  
 1922 Latta, R. Allan, Craigadam, Dalbeattie  
 1922 Laurie, Andrew, Union Bank, Gatehouse-of-Fleet  
 1922 Little, Robert, Breconiehill, Dalbeattie  
 1922 Logan, James, Criffel House, Kirkbean, Dumfries  
 1922 Lorimer, E. Gordon, Meiklewood, Ringford  
 1922 Lorimer, James A., Meiklewood, Ringford  
 1895 Lusk, Matthew C., Airieland, Castle-Douglas  
 1922 Lyall, George, Garloff, Lochanhead, Dumfries (Kirkcudbright)  
 1906 M'Adam, James, Craigley, Castle-Douglas  
 1922 M'Alister, John W., Rathen, Maxwelltown  
 1911 MacAlister, Neil H., M.R.C.V.S., 27 St Mary's Drive, Kirkcudbright  
 1922 M'Ca, William, New Farm, Southwick, by Dumfries  
 1922 M'Call, Wellwood M., Great Cross, St Mary's Isle, Kirkcudbright  
 1878 M'Conchie, John, Mossyard, Gatehouse, Dalbeattie  
 1922 M'Connell, William, Solicitor Gatehouse-of-Fleet  
 1922 M'Coskry, William, Netherthird, Castle-Douglas  
 1922 M'Cutcheon, Alexander, Goatend, Gatehouse-of-Fleet  
 1922 M'Cutcheon, Alexander, Lochlyoch, Gatehouse-of-Fleet  
 1922 M'Dowall, Andrew, Abbey Burnfoot, Dundrennan, Castle-Douglas  
 1895 M'Dowall, John, of Girdingwood, Kirkcudbright  
 1909 M'Gill, David, Hillowton, Castle-Douglas  
 1921 MacGill, Cameron, Barcheskie, Dundrennan, Castle-Douglas  
 1922 M'Guffie, James, Dunjarg House Castle-Douglas  
 1904 M'Kerrow, Charles Samson, Boreland, Southwick, Dumfries  
 1922 Mackie, George, Meikle Dalbeattie, Dalbeattie

## Admitted

- 1878 M'Kie, Colonel John, of Bargaly, Glencaird, Newton-Stewart  
 1922 M'Lellan, Major Thomas R., Ashton, Kirkcudbright  
 1920 MacLeod, John, Gillfoot, Preston Mill, Dumfries  
 1922 M'Murray, James, Royal Garage, Kirkcudbright  
 1910 M'Myn, Joseph G., Kirkhouse, Kirkbean, Dumfries  
 1922 M'Queen, Mrs Edith, Crofts, Dalbeattie  
 1897 M'Queen, James, of Crofts, Dalbeattie  
 1922 M'Taggart, John, Herriesdale, Dalbeattie  
 1922 M'Turk, Oliphant, Barlas, Dalry  
 1922 M'Turk, T., Stranfasket, New Galloway  
 1922 M'William, Alexander, Canabony, Kirkbean, Dumfries  
 1922 M'William, David, Canabony, Kirkbean, Dumfries  
 1921 Marshall, George A., 2 St Outhbert's Place, Kirkcudbright  
 1919 Maxwell, Desmond, yr. of Munches, Dalbeattie  
 1886 Maxwell, Sir W. F., of Cardoness, Bart., Gatehouse  
 1873 Maxwell, W. J. H., of Munches, Dalbeattie  
 1879 Maxwell, Wellwood, of Kirkennan, Dalbeattie  
 1904 Miller, John Richard, Mid-Kelton, Castle-Douglas  
 1922 Miller, Matthew, Dowell, Troqueer, Dumfries  
 1908 Milligan, J. E., Solicitor, Dalbeattie  
 1920 Milvain, William, *last known address*, Airdrie Farm, Kirkbean, Dumfries  
 1922 Mitchell, David, Waterside, Dalry, Galloway  
 1922 Moffat, Robert D., Under-the-Brae, Lochrutton, Dumfries  
 1922 Moffat, William, Mayfield, Castle-Douglas  
 1922 Mollins, John, Gibbonhill, Troqueer, Dumfries (Kirkcudbright)  
 1921 Montgomerie, William, Gordon's Implement Works, Castle-Douglas  
 1919 Montgomery, A. C. B., Lochfergus, Kirkcudbright  
 1907 Montgomery, Andrew Mitchell, of Netherhall, Castle-Douglas  
 1922 Montgomery, James, Implement Works, Castle-Douglas  
 1922 Montgomery, Miss, Netherhall, Castle-Douglas  
 1922 Montgomery, Miss M. P., Banks, Kirkcudbright  
 1878 Montgomery, William, Banks, Kirkcudbright  
 914 Montgomery, Wm., jun., North Milton, Kirkcudbright  
 1922 Morrison, John, M.B.E., Ferndene, Castle-Douglas  
 1922 Murdoch, Andrew, Clydesdale Bank House, Castle-Douglas  
 1922 Murdoch, William, Clydesdale Bank, Castle-Douglas  
 1922 Murphy, Donald, Doon-of-Urr, Dalbeattie  
 1879 Murray, G. R., of Parton, Castle-Douglas  
 1922 Neill, John S., Grennan, Dalry, Galloway  
 1914 Neilson, J. Beaumont, Greenlaw, Castle-Douglas  
 1896 Neilson, John, of Mollance, Castle-Douglas

## Admitted

- 1899 Neilson, W. Montgomerie, of Queenshill Ringford  
 1922 Nicholson, George H., M.B.C.V.S., St Mary's Street, Kirkcudbright  
 1922 Nicholson, Stewart, Bombie, Kirkcudbright  
 1922 O'Brien, David, Laurieknowe House, Maxwelltown  
 1904 Oswald, Major Julian, Cavens, Dumfries  
 1922 Ovens, George W., Barncrosh, Castle-Douglas  
 1878 Ovens, Walter, Torr House, Castle-Douglas  
 1908 Parker, Hugh, Auchenhay, Twynholm, R.S.O.  
 1922 Parker, John R., Auchenhay, Twynholm, R.S.O.  
 1922 Payne, John R., Douglas Arms Garage, Castle-Douglas  
 1922 Penman, Maxwell, Motor Engineer, Castle Douglas  
 1899 Philipps, Charles Aldcroft, of Dildawn, Castle-Douglas  
 1895 Phillips, James, Carse, Kirkcudbright  
 1922 Phillips, Captain R. C., M.O., Carse, Kirkcudbright  
 1905 Picken, James, Milton, Kirkcudbright  
 1913 Picken, James, Torr's Farm, Kirkcudbright  
 1922 Picken, James, jun., Torrs, Kirkcudbright  
 1922 Picken, William Y., Dromore, Kirkcudbright  
 1922 Pullinger, T. C. W., The Brae, Lochrutton, Dumfries (Kirkcudbright)  
 1922 Rae, David, British Linen Bank, Castle-Douglas  
 1922 Ramsay, James, Lodge of Kelton, Castle-Douglas  
 1922 Ramsay, R. Neill, Solicitor, Castle-Douglas  
 1922 Reid, William, Broadlea, Dalbeattie  
 1922 Rennie, Thomas, Diamonds Lagan, Parton  
 1922 Rigg, James, Haugh of Urr, Dalbeattie  
 1922 Rigg, William, Balgreddan, Kirkcudbright  
 1922 Robb, George, Barscobe, Balmaclellan  
 1903 Robb, Thomas, Sheep-dealer, Castle-Douglas  
 1922 Robertson, Andrew, Glen, Gatehouse-of-Fleet  
 1922 Robson, Thomas, Blackcraig, Borgue  
 1922 Rodan, John, Auchnabony, Dundrennan, Castle-Douglas  
 1922 Roddan, John, West Cluden, Newbridge, Dumfries  
 1909 Roedemer, Charles S., Polquhanity Farm, Dalry, Kirkcudbright  
 1922 Rogerson, Christopher (of Rogerson & Black), Kirkcudbright  
 1922 Roy, David, Barholm Mains, Creetown  
 1903 Russell, George, Newton, Dumfries  
 1902 Saunders, A. W., Gribdale, Kirkcudbright  
 1922 Saunders, J. R., Solicitor, Castle-Douglas  
 1922 Scott, David, Falgunzeon, Dalbeattie  
 1921 Scott, John, Drumhumphry, by Dalbeattie  
 1922 Shedden, John, Hallhills, Lockerbie  
 1922 Shedden, William, Balgerran, Cross-michael  
 1912 Shepley-Shepley, Robert, Troquhain, Balmaclellan  
 1911 SINGLAIN, Lord, Milton Park Lodge, Dalry, Galloway  
 1913 Slater, John, Grange Farm, Kirkcudbright

## Admitted

- 1918 Slater, Thomas, Hartburn Farm, Kirkcudbright  
 1919 Sloan, George, Bush of Craigs, Dumfries  
 1922 Sloan, Thomas Craig, 26 Cotton Street, Castle-Douglas  
 1922 Smith, James, Mark, Twynholm, R.S.O.  
 1922 Smith, James, Mill of Plunton, Borgue  
 1908 Smith, J. Aikman, C.A., Argrennan, Castle-Douglas  
 1922 Smith, Captain James Parker, Culdoach, Kirkcudbright  
 1922 Smith, John, Meikle Knox, Castle-Douglas  
 1922 Smith, J. D., Linnwood, Dalbeattie  
 1922 Smith, Matthew, Leathes, Castle-Douglas  
 1922 Southcomb, William H. G., Estate Office, Knockbrex, Kirkcudbright  
 1895 Sproat, George G. B., of Boreness, Boreland, Gatehouse  
 1922 Sproat, John Faed, Boreland of Anwoth, Gatehouse-of-Fleet  
 1922 Sproat, J. B., Lennox Plunton, Borgue  
 1870 Sproat, Robert, c/o W. G. Campbell, High Borgue, Twynholm  
 1922 Sproat, Thomas A., Borgue House, Borgue  
 1922 Sproat, William, Hazelfield, Auchencairn, Castle-Douglas  
 1878 Sproat, W. T., Borgue House, Kirkcudbright  
 1922 Steel, Christopher, Auchencranco, Lochfoot, Dumfries  
 1922 Steel, David, Auchencranco, Lochfoot, Dumfries  
 1922 Steuart, Dr Murray B., Oakley, Kirkcudbright  
 1920 Stevenson, J. B., Douganhill, Dalbeattie  
 1869†Stewart, Sir Mark J. M'Taggart, of Southwick, Bart., Southwick, Kirkcudbright  
 1918 Stewart, Thomas, Lochill Farm, Ringford, Kirkcudbright  
 1922 Stewart, Captain William, of Shambellie, New Abbey, Dumfries (Kirkcudbright)  
 1922 Stratfield, Major H. S., Barlay, Balmacellian  
 1922 Stroyan, Hugh Ross, Crockettford House, Crockettford, Dumfries  
 1905 Syminton, David, Kirkcarrswell, Dundrennan, Kirkcudbright  
 1922 Tait, James, Craigmullen, Castle-Douglas  
 1919 Taylor, William, Edingham, Dalbeattie  
 1922 Thomson, Thomas, Greenhall, Bridge of Dee, Castle-Douglas  
 1886 Timms, H. A., of Slogarie, New Galloway  
 1904 Turner, Fred. J., Cally Estate Office, Gatehouse-of-Fleet  
 1895 Veitch, David Y., Low Creech, Gatehouse  
 1907 Wallace, James, Chapelhill, Kirkcudbright  
 1879 Wallace, J., Foundry, Castle-Douglas  
 1886 Wallace, Sir M. G., Terregiestown, Dumfries  
 1879 Wallace, R., Foundry, Castle-Douglas  
 1922 Wallace, Robert, Strathmore, Castle-Douglas  
 1910 Wallat, David, Crown Hotel, Castle-Douglas  
 1895 Wallat, William, Auction Mart, Castle-Douglas  
 1922 Wannop, Isaac, Waterside Farm, Dalry, Kirkcudbrightshire  
 1922 Watson, Hugh, Glentoo, Castle-Douglas  
 1922 Watson, Robert, Halferne, Castle-Douglas

## Admitted

- 1922 Watson, William, Viewfield, New Galloway  
 1910 Weeks, Captain F. Wickham, Barholm House, Creetown  
 1921 Weir, James, Brickhouse, New Abbey Road, Dumfries  
 1918 Weir, John, Midtown, New Abbey, Dumfries  
 1922 Welsh, Jesse Hartley, Langlands, Twynholm  
 1922 Welsh, William, Knightsgrrove, Dumfries  
 1920 Wigan, Lewis D., Senwick, Kirkcudbright  
 1920 Wigan, Mrs Lewis D., Senwick, Kirkcudbright  
 1921 Williamson, David H., Sypland, Kirkcudbright  
 1922 Williamson, James (John Chariton & Sons, Grain Merchants), Kirkcudbright  
 1895 Wilson, Alexander, Sandisle, Dumfries  
 1910 Wilson, John M'G., Cairnholly, Creetown  
 1919 Wilson, Peter M'Clelland, jun., Lochdugan, Castle-Douglas  
 1914 Young, Arthur, Garroch, New Galloway (26 Hans Court, London, S.W.)

## WIGTOWN.

- 1908 Adair, Percy J., Solicitor, Stranraer  
 1898 Aonew, Sir Andrew Noel, of Lochna, Bart., Stranraer  
 1919 Agnew, John, Balwhirrie, Leswalt, by Stranraer  
 1903 Agnew, John Lockhart, Balwherrie, Leswalt  
 1922 Alexander, John, Lagganmore, Portpatrick  
 1913 Allan, Andrew, Glenturk, Wigtown  
 1906 Anderson, James, Inchparks, Stranraer  
 1893 Anderson, John, Drummoral, Isle of Whithorn  
 1922 Andrew, Archie, Meikle Galdnoch, Leswalt  
 1922 Andrew, William, Meikle Galdnoch, Leswalt  
 1903 Barbour, John, Auchneight, Drummor, Stranraer  
 1920 Barr, James, Glasnick, Kirkcowan  
 1922 Bell, James, Low Three Mark, Stoneykirk  
 1893 Bennoch, James, Whitepark, Stranraer  
 1893 Bennoch, John, Solicitor, Stranraer  
 1896 Black, John, British Linen Bank, Wigtown  
 1922 Black, Peter M'Candlish, Fortyerrock, Whithorn  
 1913 Bone, John, Mainis of Park, Glenluce  
 1906 Brebner, R. F., Monreith Estate Office, Whauphill  
 1922 Brown, Ebenezer Kennedy, Bridgehouse, Sorbie  
 1895 Caldwell, Hugh, Culhorn Parks, Stranraer  
 1909 Campbell, William, Chapel Outen, Whithorn  
 1908 Chalmers, Hugh, Chlenry, Castle-Kennedy  
 1922 Chalmers, John B., Barcolus, Stranraer  
 1898 Christison, James, Barglass, Kirkinner  
 1908 Cochran, Andrew, High Ardwell, Kirkcolum  
 1893 Cochran, George, North Cairn, Kirkcolum

## Admitted

- 1877 Oochran, Robert, Craigenacrosh, Stoneykirk, Stranraer  
 1893 Oochran, Robert, Portencallie, Kirkcolum  
 1919 Oochran, Tom, Craigenacrosh, Stoneykirk, Stranraer  
 1923 Oochrane, Fred. J., Craigcaffie, Stranraer  
 1896 Crawford, Archibald, Broughton Mains, Sorbie  
 1922 Crawford, James, Broughton Skeog, Sorbie  
 1895 Douglas, John, High Balyett, Stranraer  
 1922 Douglas, William, Pimminnoch, Portpatrick  
 1898 Drew, James Lawson, Doonhill, Newton-Stewart  
 1915 Drynan, John, Knockiebay, New Luce  
 1922 Edgar, Archibald, M.R.C.V.S., Whithorn  
 1920 Evans, T. R., Alton Drummors, Wigtown  
 1922 Ferguson, William Todd, Mark, Castle-Kennedy  
 1898 Findlay, Francis, Drumbreddan, Ardwell, Stranraer  
 1903 Findlay, John Steel, Drumbreddan, Ardwell, Stranraer  
 1893 Findlay, John Wood, Barlliewhurr, Whithorn  
 1903 Findlay, William, Drumbreddan, Ardwell, Stranraer  
 1922 Fisher, John B., Barnsallie, Glenluce  
 1919 Fletcher, Henry G., 62 Dalrymple Street, Stranraer  
 1914 Forster, John, Mains of Larg, New Luce  
 1878 Forsyth, John, Relfer Park, Sorbie  
 1903 Forsyth, John, Valleyfield, Kirkcolum  
 1923 Gibson, John, Secretary, Farmers' Union, Bridge Street, Stranraer  
 1922 Gibson, William, Beech, Cairnryan  
 1920 Gillespie, Robert, *last known address*, Balcarraig Moor, Port William  
 1920 Gillespie, William B., *last known address*, Balcarraig Moor, Port William  
 1910 Gillespie, William James, *last known address*, South Barsalloch, Port William  
 1922 Gilmour, James A., South Cairn, Ervie, Stranraer  
 1922 Goldie, William, Boreland, Glenluce  
 1923 Graham, James M., Caldons Park, Stoneykirk  
 1922 Grierson, Robert, of Glendrie, Kirkcolum  
 1903 Hamilton, Hugh, jun., 7 Bridge Street, Stranraer  
 1903 Hamilton, James, Pentlin, Gariestown  
 1903 Hamilton, Major William M. Fleming, of Craighlaw, Kirkcowan  
 1923 Hannay, Andrew, Grain Merchant, Stranraer  
 1922 Harper, Fred W., Seedsman, Charlotte Street, Stranraer  
 1922 Henderson, Charles Ross, Galloway Arms Hotel, Garieston  
 1920 Henry, A. H. Kennedy, Culmore Farm, Stoneykirk, Stranraer  
 1895 Hewatson, John, Baltersan, Newton-Stewart  
 1895 Hewatson, Robert, Upper Barr, Newton-Stewart  
 1911 Hill, Peter, Baltier, Whithorn  
 1913 Hunter, George, Galloway Estate Office, Newton Stewart  
 1922 Hunter, James P., Bankfield, Glenluce  
 1919 Hunter, John P., Garthland Mains, Stranraer  
 1888 Hunter, William, Garthland Mains, Stranraer  
 1919 Hyslop, Gilbert M., Craighlaw Mains, Kirkcowan

## Admitted

- 1922 Jamieson, Thomas, High Ourghie, Drummors  
 1920 Kay, Andrew, Beachmount, Stranraer  
 1893 Kerr, Hugh, West Galdenoch, Stoneykirk  
 1922 Kerr, Robert, Machermore Mains, Newton-Stewart  
 1910 Laird, Andrew, Torhousekie, Wigtown  
 1903 Lamb, Robert, Burnbank, Lochans, Stranraer  
 1897 Lughton, John, Logan Estates Office, Chapel Rossan, Stranraer  
 1918 Logan, Thomas Munro, Estate Office, Garieston  
 1922 Love, James M'Murray, Kilumpha, Port Logan  
 1920 M'Caig, Alexander, Kilhill, Stranraer  
 1914 MacCaig, Alex. Neilson, Challoch, Stranraer  
 1922 M'Caig, James M., Barnulloch, Stranraer  
 1888 M'Caig, John, of Belmont, Stranraer  
 1922 M'Caig, Mrs Maritza, Belmont, Stranraer  
 1922 M'Caig, Robert, Kilhill, Stranraer  
 1922 M'Camon, Alexander W., of Kirranrae, Kirkcolum  
 1903 M'Camon, John, Barnhills, Kirkcolum  
 1892 M'Clean, James, Craigmount, Portpatrick  
 1892 M'Clelland, Andrew, Redbrae, Wigtown  
 1922 M'Clelland, W. V., Redbrae, Wigtown  
 1922 M'Clymont, Alexander, Creebank, Bargrennan, Newton-Stewart  
 1920 M'Colm, John, Cairngarroch, Drummors  
 1897 M'Conchie, William, Mains of Penninghame, Newton-Stewart  
 1914 M'Connell, James, Boreland, Whauphill  
 1922 M'Creath, Robert, Arbrack, Whithorn  
 1893 M'Creath, Thomas, Challoch Farm, Newton-Stewart  
 1922 M'Culloch, William, Barscarron, Sandhead  
 1899 M'Donnall, Andrew Kenneth, of Logan, Stranraer  
 1904 M'Donnall, Nigel Douglas, Logan, Stranraer  
 1911 M'Dowall, Andrew, of Changue, Port William  
 1915 M'Dowall, George, Kirminnoch, Stranraer  
 1878 M'Dowall, R., Auchengallie, Port William  
 1911 MacFadyen, Neil, Mark of Shennanton, Kirkcowan  
 1920 M'Fadzean, Henry H., Reyburn, Stranraer  
 1893 M'Gill, Andrew, Kildonan, Stoneykirk  
 1922 M'Harg, John, Barbeth, Leawalt  
 1922 M'Harrie, James, of Duchra, Lochans, Stranraer  
 1895 M'Harrie, Stair, Rephad, Stranraer  
 1922 M'Harrie, William, Drummockloch, Cairnryan  
 1922 M'Ilwraith, George A., Stannock, Whithorn  
 1915 M'Ilwrick, Alexander, Balmurrie, New Luce  
 1915 M'Ilwrick, Gilbert, Miltonise, Glenwhilly  
 1922 M'Intyre, Ian, Logan Mains, Ardwell  
 1900 M'Intyre, James, Logan Mains, Ardwell  
 1880 M'Keand, F., of Airlies, Whauphill  
 1893 M'Lean, Charles Arbuthnot, Solicitor, Wigtown  
 1922 MacLellan, Duncan, Balke Home Farm, Castle-Kennedy  
 1922 M'Master, Hugh A., Milmaie, Stoneykirk, Stranraer

**Admitted**

1910 M'Master, James, Auchleand, Wigtown  
 1922 M'Murray, Andrew, Aird, Stranraer  
 1922 M'Neil, John, Meralough, Leswalt  
 1916 M'Neil, William L., of Shennanton, Kirkcowan  
 1906 M'Neill, Colonel Alex. Henry, Carseriggan, Kirkcowan  
 1922 M'William, Alexander, Kildrochat, Stranraer  
 1905 Marshall, Albert James, Bridgebank, Stranraer  
 1896 Marshall, J., Drummores, Stranraer  
 1885 Marshall, Mathew, Bridgebank, Stranraer  
 1878 Matthews, A. B., British Linen Bank, Newton-Stewart  
 1910 Matthews, John Gordon, Orchardton, Garlieston  
 1877+ Maxwell, Sir H. E., of Monreith, Bart., D.C.L., LL.D., F.R.S., Whauphill  
 1887 Menzies, W. M., Factor, Ardwell, Stranraer  
 1895 Morrison, David, Boreland, Kirkcowan  
 1895 Morrison, D. William, Derry, Newton-Stewart  
 1922 Morton, George, Auldbreck, Whithorn  
 1922 Muir, Alexander A., Rispaig, Whithorn  
 1920 Muir, A. W., Drumtrodden, Whauphill  
 1922 Muir, Robert Barclay, Corwar Outon, Whithorn  
 1920 Murray, Alex., Kilfillan, Glenluce  
 1896 Murray, John, Kilfillan, Glenluce  
 1922 Neil, Alexander, Kilbreen, Stranraer  
 1893 Nicholson, Andrew, Kildale, Whithorn  
 1921 Nicholson, John, Kildale, Whithorn  
 1898 Niven, John F., Mahaar, Kirkcolum  
 1922 Owen, Alexander M., Culnoag, Sorbie  
 1903 Parker, John, Balyett, Stranraer  
 1895 Paton, Robert, Mains of Airies, Ervie, Stranraer  
 1914 Purves, James, Estates Office, Dunskey, Portpatrick  
 1922 Rae, John A., Galloway Outen, Whithorn  
 1914 Ralston, J. L., last known address, Millmain, Stoneykirk  
 1885 Ralston, Robert, Laird's Hill, Cairnryan, Stranraer  
 1922 Rankin, John S., Cairnbrock, Leswalt  
 1922 Reid, Charles, Mahaar, Castle-Kennedy  
 1897 Ritchie, John, Lochans Mill, Lochans  
 1895 Robertson, John, Galloway Estates Office, Newton Stewart  
 1906 Rodan, John Miller, Mill Bank, Glenluce

**Admitted**

1922 Ross, Alexander C., Auchenee, Portpatrick  
 1922 Ross, James T., Knocknassie, Ervie, Stranraer  
 1922 Ross, Robert, Cairnsie, Ervie, Wigtown  
 1922 Routledge, Arthur J., North Barsalloch, Port William  
 1922 Rutherford, Joseph P., Dunccliffe, Stranraer  
 1922 Service, Andrew R., Shennanton Farm, Kirkcowan  
 1920 Shaw, Frederick, 8 Edinburgh Road, Stranraer  
 1903 Sloan, William, Larg Farm, Creetown  
 1922 Smith, John, Borrowmoss, Wigtown  
 1922 Smith, Thomas, Seedsman, Blackpark, Stranraer  
 1922 Sproat, John N., Baldoon, Wigtown  
 1904 Sproat, Wm., North Balfarn, Kirkinner  
 1922 Stair, Rt. Hon. the Countess of, Lochinch, Castle-Kennedy Station  
 1910\* Stair, the Earl of, Lochinch, Castle Kennedy Station  
 1921 Stewart, Capt. Edward Orde M'Taggart, Ardwell, Wigtownshire  
 1893 Taylor, Peter, Crews, Glenluce  
 1919 Thompson, Alex., Barmeal, Port William  
 1893 Thorburn, John, 5 Blair Street, Portpatrick  
 1921 Tully, John Paterson, Colfin, Stranraer  
 1893 Tully, William, Colfin, Stranraer  
 1903 Walker, H. H., Balcraig, Port William  
 1922 Wallace, James, jun., Knockneen, Ervie, Kirkcolum  
 1907 Wallace, John A. A., of Lochryan, Cairnryan, Stranraer  
 1917 Whyte, John M. H., Kirkmabreck, Sandhead, Stranraer  
 1922 Wilson, Alexander, Balmesh, Glenluce  
 1922 Wilson, Robert, Stair Drive, Stranraer  
 1920 Wither, James, Awkirk Farm, Stranraer  
 1922 Wither, Peter H., Knocktinn, Ervie, Kirkcolum  
 1894 Wither, Thomas, Awkirk, Stranraer  
 1922 Wyllie, Hugh Alexander, Bridge Street, Stranraer  
 1911 Wyllie, John H., The Creamery, Dunsagitt  
 1919 Wyllie, John T., Garliestown  
 1920 Young, David, Droughtag, Port William

**NUMBER OF MEMBERS, 1118.**

## 7.—INVERNESS DIVISION.

## EMBRACING THE

COUNTIES OF CAITHNESS, INVERNESS, MORAY, NAIRN, ORKNEY  
AND SHETLAND, ROSS AND CROMARTY, AND SUTHERLAND.

## CAITHNESS.

## Admitted

- 1913 Alexander, William A., Ruther, Watten  
1920 Anderson, Robert John, *last known address*, 27 Olrig Street, Thurso  
1921 Bain, John, Murza Mains, Bower, Caithness  
1900 Baird, Colonel E. W., Forse House, Latheron  
1912 Barnetson, James, Georgemas House, Halkirk, Caithness  
1911 Barnetson, William A., Claycock House, Halkirk, Caithness  
1920 Begg, D., West Murkle, Thurso  
1920 Black, Alex. W., B.Sc. (Agr.), Aberdeen and North of Scotland College of Agriculture, Thurso  
1919 Budge, Captain G. T. F., M.R.C.V.S., Barnyards, Wick  
1901 Budge, James, Barnyards, Wick  
1909 Campbell, A. D., Stanstill, Wick  
1919 Campbell, W. G., Thrumster Mains, Wick  
1910 Clyne, George, Noss Farm, Wick  
1919 Clyne, W. A. Scott, Stirkoke Mains, Wick  
1908 Coghill, Donald, Hillhead, Wick  
1901 Davidson, Charles, Cogle, Watten, Caithness  
1919 Davidson, George, B.Sc., Cogle, Watten, Caithness  
1912 Davidson, J. H. M., Buckies, Thurso  
1901 Dunnet, Alexander, Joiner, Bower, Wick  
1894 Dunnet, Alexander, Sibster, Wick  
1921 Ferrier, Robert, Westerseat, Wick  
1922 Gordon, Stuart Hill, Thurdistoft, Castletown, Caithness  
1919 Gowans, John, Accountant, Thurso Road, Wick  
1902 Gunn, David, Viewfirth, Thurso  
1909 Gunn, George, West Greenland, Castletown  
1911 Gunn, James William, Banniskirk, Halkirk  
1919 Harrold, George, Secretary, Caithness Agricultural Society, Wick  
1883 Henderson, David P., of Stemster, Halkirk  
1883 Henderson, Colonel J. H., of Bilbster, Bellevue, Wick  
1881 Horne, Edward William, of Thuster, Wick  
1920 Innes, Daniel, Oust, Westfield, Thurso  
1922 Innes, Joseph A., Borium, Reay, Caithness  
1901 Keith, Peter, Ulbster Estates Office, Thurso  
1899 King, George, Portland Estate Office, Berriedale, Caithness

## Admitted

- 1919 Lindsay, James, Ironmonger and Agricultural Implement Maker, 27 Olrig Street, Thurso  
1911 Mackay, George M., Steam Mills, Wick  
1921 M'Pherson, Charles S. G., Shorelands, Wick  
1920 Mill, Mrs H., Achscrabster, Westfield, Thurso  
1921 Mill, Henry, Achscrabster, Westfield, Thurso  
1901 Mill, Peter, Achscrabster, Thurso  
1921 Miller, John, Scrabster House, Thurso  
1908 Morris, William, Olrig Mains, Caithness  
1912 Mowat, John A., Auctioneer, Lybster, Caithness  
1911 Murray, Donald C., Castletown, Caithness  
1921 Murray, Captain G. D. Keith, M.C., Garth House, Castletown  
1912 Oliver, John, 18 Princes Street, Thurso  
1920 Miss H. Penny, N.D.D., N.D.A., 29 Trail Street, Thurso  
1881\*† PORTLAND, His Grace the Duke of K.G., Langwell, Wick  
1911 Purves, James, Thurdistoft, Thurso  
1912 Robertson, Major J. J., D.S.O., Bridge Street, Wick  
1906 Robson, John, jun., Lynegar, Watten, Caithness  
1920 Rose, John, B.Sc., Hillside Cottage, Thurso  
1901 Sinclair, A. F., Achinasbest, Reay, Caithness  
1919 SINCLAIR, Major Sir Archibald Henry Macdonald, of Ulbster, Bart., Thurso  
1900 Sinclair, Donald, Implement Maker, Wick  
1901 Sinclair, Major Donald, 51 Princes Street, Thurso  
1886 SINCLAIR, Sir John R. G., of Dunbeath, Bart., Barrock House, Wick  
1920 Stewart, George, Millbank House, Thurso  
1876 Sutherland, Alexander, Rampyards, Watten—*Free Life Member*  
1919 Sutherland, William, Catchery, Watten, Caithness  
1921 Swanson, Magnus H., Hollandmey, Mey, Thurso  
1921 Swanson, William H., Phillips Mains, Mey, Thurso  
1920 Tait, James, Greenvale, Dunnet, Thurso  
1907 Waters, Donald, Janet Street, Thurso  
1901 Younger, Alexander, Hoy, Castletown, Caithness

**INVERNESS.**

Admitted  
 900 Allan, Alexander, Seafeld Farm, Inverness  
 901 Allan, John M., Easter Duthill, Carr Bridge  
 901 Allison, Thomas, Solicitor, Fort-William  
 901 Anderson, Alexander, 55A Eastgate, Inverness  
 1920 Arbuthnot, Hugh, Drumgask, Kingussie  
 1928 Baillie, Duncan, Teanocoll, Kiltarlity, Beaully  
 1883 Baillie, James E. B., of Dochfour, Inverness  
 1919 Beveridge, George, Vallay, Lochmaddy, Inverness  
 1892 Birnie, John, Balnafetack, Inverness  
 1874 Bliscoe, T. Ramsay, of Newton, Kingillie, Inverness  
 1902 Bisset, John A., Borlum, Fort Augustus  
 1923 Borland, William Dunlop, M.A., Garrynamonie House, Garrynamonie, South Uist  
 1876 Brebner, Robert, 6 Porterfield Road, Inverness  
 1915 Brebner, R. Wallace, Factor, Isle of Rum  
 1897 BULLOUGH, Sir George, of Rum, Bart., Oban  
 1920 BURTON, The Baroness, Dochfour, Inverness  
 1891 Cameron, Angus, Ben Nevis Auction Mart, Fort-William  
 1909 Cameron, Donald, Balvonie of Leys, Inverness  
 1912 Cameron, Donald, 13 Lombard Street, Inverness  
 1909† Cameron, Donald, of Lochiel, Achnacarry, Spean Bridge  
 1890 Cameron, James, Coulnakyle, Nethy Bridge, S.O.  
 1892 Cameron, James T., Gesto, Isle of Skye  
 1891 Cameron, John, *last known address*, Culreich Mains, Nethy Bridge  
 1918 Cameron, John A., National Bank, Portree  
 1892 Cameron, Robert D., Lochgorm, Inverness  
 1923 Cameron, Mrs R. D., Seafeld of Raigmore, Inverness  
 1923 Cameron, W. J., Brin House, Flichity, by Inverness  
 1923 Campbell, A., Viewhill, Gollanfield  
 1891 Campbell, Sheriff G. J., St Geberts, Inverness  
 1923 Campbell, James A. (of Hepburn & Company), Beaully  
 1921 Campbell, John, Liveras Farm, Broadford, Isle of Skye  
 1923 Campbell, John, Commercial Bank, Beaully  
 1921 Carmichael, Miss Margaret, N.D.D., Agricultural College Office, Portree  
 1891 Cattell, James, Balsparden, Gollanfield  
 1923 Cattell, W. R., Balsparden, Gollanfield  
 1903 Chisholm, Duncan, Catplich, Kiltarlity, Beaully  
 1903 Clark, A. M., Craigside Lodge, 4 Gordon Terrace, Inverness  
 1898 Coles, Douglas, *last known address*, Rosebank, Spean Bridge  
 1923 Conacher, Alexander, Beaufort Home Farm, Beaully  
 1923 Cooper, Lieut.-Colonel H. L., Struy Lodge, Beaully  
 1900 Cowan, Robert, Culblair Farm, Dalcrois Station

Admitted  
 1900 Cran, William John, Highland Agricultural Co., Ltd., Inverness  
 1896 Cumming, William A., Allanfearn, Inverness  
 1923 Currie, M., Rose Street Foundry, Inverness  
 1923 Dallas, Hugh, Lonnie, Allanfearn, Inverness  
 1920 Dallas, James, Bras of Cantray, Croy, Inverness  
 1902 Davidson, D., Mains of Croy, Gollanfield  
 1893 Davidson, James, Beech Hill, Crown Avenue, Inverness  
 1920 Dean, David W., Achvochkie, Advie, Strathspey  
 1921 Dott, David, Carse Farm, Inverness  
 1923 Douglas, W., Fanellan, Beaully  
 1921 Dunbar, Col. C. MacA., Pityoulish Aviemore  
 1920 Duncan, John, Inchberry, Lentrane  
 1912 Ellice, Major Edward Charles, D.S.O., of Glengarry and Glenquoich, Invergarry House, Invergarry  
 1902 Elliot, Matthew, Drummond Street, Inverness  
 1902 Elliot, William Robert, Drummond Street, Inverness  
 1920 Falconer, A. H., Ballagan, Gollanfield  
 1921 Ferries, James (Messrs James Ferries & Co.), 84-86 Eastgate, Inverness  
 1923 Fowke, W. H. (of Messrs Chapman & Co.), Inverness  
 1894 Fraser, Alexander, *last known address*, Balloch, Culloiden, Inverness  
 1911 Fraser, Alexander, Union Street, Inverness  
 1922 Fraser, Andrew, Teanlonaig, Beaully  
 1911 Fraser, Charles, Mains of Gollanfield, Gollanfield, Inverness  
 1910 Fraser, George Mackay, Solicitor, Portree  
 1923 Fraser, Hugh, Ballindoun, Beaully  
 1874 Fraser, James, C.E., 106 Castle Street, Inverness  
 1920 Fraser, James, B.Sc., Forestry School, Kiltarlity, Beaully  
 1921 Fraser, John, Farm Manager, Achnagairn, Kirkhill  
 1901 Fraser, John Huntly, Dalneigh, Inverness  
 1902 Fraser-Mackenzie, Robert S., Bunchrew Inverness  
 1923 Fraser, S., Wester Moniack, Kirkhill, Inverness  
 1923 Fraser-Tytler, Major N., D.S.O., of Aldourie, Inverness  
 1900 Fulton, James, Newton Farm, Lochmaddy  
 1911 Gair, John H., Easter Moniack, Kirkhill, Inverness  
 1893 Garrioch, J. T., Lovat Estates Office, Beaully  
 1923 Gauld, William, Clunes Mains, Kirkhill, Inverness  
 1911 Gilroy, George, jun., Craighall, Kessock, by Inverness  
 1885 Gordon, Jas. G., *last known address*, Elmwood, Inverness  
 1901 Gordon, Roderick, Wester Inshes, Inverness  
 1923 Gordon, S. Hunter, Rose Street Foundry, Inverness  
 1923 Gordon, Thomas, Fruit Merchant, 18 Union Street, Inverness  
 1918 Gossip, William M., 54 High Street, Inverness  
 1901 Graham, Hugh M., Milnfield, Inverness



## Admitted

- 1907 Grant, Alex., Dalbrusk, Carr Bridge  
 1928 Grant, John A., Millburn Distillery, Inverness  
 1894 Grant, John Peter, of Rothiemurchus, Aviemore  
 1896 Grant, Peter, The Hotel, Carr Bridge  
 1919 Grant, William, Borrodale, Arisaig, Inverness-shire  
 1912 Grant, William, The Dell, Aviemore  
 1920 Grant, William James, M.A., B.Sc., Agricultural College Offices, 8 Union Street, Inverness  
 1911 Grigor, William, Daviot Lodge, Inverness  
 1928 Humphrey, C. E., Northern Assurance Company, Inverness  
 1906 Hutchison, Alexander, Balloan, Inverness  
 1970 Hutchison, John M., Easter Kerrowgair, Dalcross  
 1911 Jessiman, Alexander, Craig Cottage, Leachkin Road, Inverness  
 1905 Johnston, Hugh G., Culduthel, Inverness  
 1900 Johnston, William, Braeton of Leys, Inverness  
 1901 Junor, Donald, Culduthel Home Farm, Inverness  
 1910 Junor, Peter, 38 Queensgate, Inverness  
 1889 Kemble, Major, Knock, Skye  
 1920 Kennedy, Alexander, Manager, Bunchrew Farm, Bunchrew, Inverness  
 1915 Kennedy, John M. (North of Scotland College of Agriculture), Lochmaddy, Inverness-shire  
 1923 King, Thomas, Gladstone Villa, 48 Ardconnel Street, Inverness  
 1901 Laing, Robert P. S., 5 Castle Street, Inverness  
 1894 Livingston-Macdonald, Captain R. M., 3rd Seaforth Highlanders, Flodigarry, Isle of Skye  
 1901 Logan, William, V.S., 3 Victoria Circus, Inverness  
 1892† Lovat, Lord, C.B., D.S.O., K.C.V.O., A.D.C., Beaufort Castle, Beaulieu  
 1923 Luke, John A., Woodcliffe, Culduthel Road, Inverness  
 1892 MacAlinagh, John, Congash, Grantown  
 1905 M'Allister, William, Drakie's House, Inverness  
 1906 MacArthur, Donald Charles, last known address, Etteridge, Newtonmore, Kingussie  
 1921 Macarthur, Neil, Solicitor, Stornoway  
 1921 Macaskill, Robert, Polochar Inn, Kilbride, South Uist  
 1921 Macaulay, Donald, Hotel, Creagorry, Benbecula, South Uist  
 1921 Macaulay, John, Westford Inn, Lochport, North Uist  
 1923 M'Bean, D. W., Mains of Balnagown, Ardersier, Inverness  
 1921 MacBean, Peter, Milton of Balnagown, Ardersier, Fort George  
 1903 MacBean, W., Scotsraig, 40 Southside Road, Inverness  
 1920 M'Callum, Alexander, Factor, Uig, Isle of Skye  
 1923 M'Callum, Duncan, c/o M'Donald, Fraser, & Co., Inverness  
 1920 MacCallum, John H., Solicitor and Estate Agent, Fort William  
 1901 M'Coll, A., 23 Eastgate, Inverness  
 1893 Macdonald, Alexander, Balintore, Kirkhill, Inverness  
 1921 Macdonald, Alistair, Achintee, Fort-William

## Admitted

- 1899 Macdonald, Archibald Wm., Blarour, Spean Bridge  
 1918 M'Donald, Donald, Scorgule Farm, Muirtown, Inverness  
 1899 Macdonald, Captain James Alex. Ranald, of Balranald, Lochmaddy, North Uist  
 1891 Macdonald, J. H., of Torbreck, Inverness  
 1911 M'Donald, James Logie, Morayston, Dalcross, Inverness  
 1896 Macdonald, John, Distiller, Fort-William  
 1911 Macdonald, John M., Lochardie, Inverness  
 1897 M'Donald, Kenneth L., Skirinish, Skeabost Bridge, Isle of Skye  
 1911 Macdonald, Malcolm, Albert Hotel Bar, Inverness  
 1923 Macgillivray, Finlay, 8 Midmills Road, Inverness  
 1914 M'Gillivray, Kenneth P., Kirkton, Bunchrew, Inverness  
 1923 Macgillivray, W., Bruiach, Kiltarlity, Beaulieu  
 1876 MacGillivray, William, Eoligary, Barra  
 1877 M'Gregor, Archibald, Gaakbeg, Laggan  
 1914 MacIntosh, James, Glackton, Gollanfield  
 1911 Macintosh, Lachlan, Balvonie, Daviot, Inverness  
 1911 Macintosh, N. D., of Raigmore, Inverness  
 1920 M'Intyre, Dugald, Ord, Isle of Ornsay, Skye  
 1914 Macintyre, William, Erchless Estates Office, Strathglass  
 1923 M'Iver, Andrew, 18 Ballifeary Road, Inverness  
 1919 M'Kay, Kenneth, 16 Lovat Road, Inverness  
 1898 Mackay, Simon (D. Ross & Co.), Baron Taylor's Lane, Inverness  
 1901 Mackay, William, Solicitor, 19 Union Street, Inverness  
 1920 Mackenzie, Alex., Bogbain, Inverness  
 1902 Mackenzie, Alexander J., 63 Academy Street, Inverness  
 1901 M'Kenzie, David Fraser, Parks of Inshes, Inverness  
 1912 Mackenzie, Hector Hugh, Balesone, Lochmaddy  
 1920 Mackenzie, Hugh, Leather Merchant, Inverness  
 1923 M'Kenzie, Hugh, Breakachy, Kilmorack, Beaulieu  
 1911 Mackenzie, John, Academy Buildings, Inverness  
 1911 Mackenzie, John, Factor, Dunvegan, Isle of Skye  
 1891 Mackenzie, Dr M. T., Scolpaig, Lochmaddy  
 1903 Mackenzie, N. B., Estate Office, Fort-William  
 1874 Mackenzie, N. B., British Linen Bank, Fort-William  
 1920 Mackenzie, Roderick, N.D.D., County Organiser, Agricultural College Office, Fortree  
 1901 Mackenzie, Simon, The Hotel, Lochboldale  
 1911 Mackenzie, T. C., M.D., F.R.C.P., District Asylum, Inverness  
 1905 Mackenzie, Thomas, Estates Office, Invergarry  
 1886 Mackenzie, William D., of Farr, Daviot (Fawley Court, Henley-on-Thames)  
 1923 Mackinnon, Charles, 10 and 12 Church Street, Inverness  
 1883† Mackintosh, A. D., of Mackintosh, Moy Hall, Inverness

**Admitted**

- 1914 Mackintosh, Donald A., Balnabul, Croy, Inverness  
 1908 Mackintosh, Hugh, Galcantray, Gollanfield  
 1911 MacKintosh, John, Dalnavert, Aviemore  
 1911 MacKintosh, Robert L., of Inshes, Inverness  
 1901 Mackintosh, W. W., of Raigmore, Inverness  
 1923 M'Lean, A., Phopachy, Bunchrew  
 1911 Maclean, Donald, Teafriah, Beauly  
 1907 M'Lean, Donald, Fairfield, Newtonmore  
 1923 M'Lean, Hugh, Wester Kirkhill, Kirkhill  
 1901 Maclean, Nell, Nunton, Benbecula, Lochboisdale  
 1901 Maclean, R., of Drynie, Kessock, Inverness  
 1911 Maclean, William, Tallisker Farm, Portree  
 1920 MacLennan, Duncan Alexander, Balmachree, Inverness  
 1923 M'Lennan, Roderick, Balnaglack, Dalcross  
 1920 MacLeod, Duncan, Kinloch Lodge, by Broadford, Skye  
 1901 M'Leod, Murdo, Upper Slackbuie, Inverness  
 1908 Macpherson, Albert Cameron, of Cluny, Cluny Castle, Kingussie  
 1923 Macpherson, Charles, M.R.C.V.S., Lime-park, Broadford, Isle of Skye (Ministry of Agriculture and Fisheries, 4 Whitehall Place, London, S.W. 1)  
 1921 Macpherson, Miss C., N.D.D., Agricultural College Office, Benbecula  
 1878 Macpherson, C. J. B., of Balavil, Kingussie  
 1920 M'Pherson, Duncan, Upper Ollach, Braes, Portree, Skye  
 1923 M'Pherson, Roderick, Broadstone Park, Inverness  
 1911 Macrae, D., Eastgate, Inverness  
 1900 MacRae, Duncan, Ruthven, Kingussie  
 1891 Macrae, Horatio Ross, W.S., of Clunes, Inverness (57 Castle Street, Edinburgh)  
 1898 MacRae, U. H. A., Nuide, Kingussie  
 1901 M'Tavish, P. D. (Stewart, Rule, & Co.), Inverness  
 1900 M'William, W. L., Culmill, Kiltarlity, Beauly  
 1911 Malcolm, Edward Ellice, W.S., Fort-William  
 1908 Malcolm, George, jun., Auchendaul, Spean Bridge  
 1889 Martin, Nicol, of Glendale, Dunvegan  
 1923 Matheson, E., Glendoe, Fort-Augustus  
 1884 MAXWELL, Hon. B. C., Farley House, Beauly  
 1911 Mearns, Alexander, Platchaig Farm, Beauly  
 1888 Merry, A. W., of Belladrum, Beauly  
 1883 Merry, C. J., Belladrum, Beauly  
 1921 Miller, James, M.A., B.Sc., Board of Agriculture for Scotland, 59 Academy Street, Inverness  
 1923 Mitchell, F. C., 23 Hamilton Street, Inverness  
 1923 Moon, D., Dempster Gardens, Inverness  
 1908 Munro, Alexander, of Leasach, Culloden Moor, Inverness  
 1911 Munro, John, Milton, Gollanfield  
 1923 Munro, John F., Easter Craggach, Kirkhill  
 1923 Munro, Miss Margaret Ellen, N.D.D., Agricultural College Office, Portree, Isle of Skye

**Admitted**

- 1898 Murray, Donald, Ardinair, Lovat Road, Inverness  
 1890 NICHOLSON, Sir Arthur Wm., K.C.B., Arisaig House, Fort-William  
 1893 Oberbeck, C., c/o Mrs Macdonald, 5 Friars Place, Huntly Street, Inverness  
 1923 Oldfield, Captain J. E. R., of Achnagairn, Kirkhill, Inverness  
 1885 Paterson, John S., 23 Queensgate, Inverness  
 1911 Paterson, Kenneth, Cautybruck, Culloden Moor, Croy, Inverness  
 1919 Paterson, William, 21 Queensgate, Inverness  
 1912 Petrie, David (D. Petrie & Co.), Taybank, Inverness  
 1911 Puntton, James, Tealaggan, Kirkhill, Inverness  
 1911 Reid, Robert G., Castle Stuart, Dalcross, Inverness  
 1923 Ritchie, John, Phoinas, Beauly  
 1900 Ritchie, William, Teawig, Beauly  
 1900 Robertson, Alex., jun., last known address, Lethendry, Cromdale  
 1920 Robertson, Donald, Drumgask, Kingussie  
 1902 Robertson, Donald, Clifton, Kingussie  
 1892 Robertson, John, Auctioneer, Inverness  
 1921 Robertson, Norman, North Harris Estate Office, Tarbert, Harris  
 1920 Robertson, William, Aberchaldier, Gorthlick  
 1911 Robertson, William Fraser, Aberchaldier Farm, Invergarry  
 1890 Rose, Hugh Francis, of Holme Rose, Fort-George  
 1923 Rose, John, Connage, Fort-George  
 1911 Rose, John, Hilton, Inverness  
 1883 Ross, Alexander, LL.D., Architect, Riverfield, Inverness  
 1893 Ross, A. M., Loch Dochfour, Inverness  
 1911 Ross, Errington (Macrae & Dick, Ltd.), Inverness  
 1883 Ross, William, Milton of Culloden, Inverness  
 1910 Ross, William R., Balloch, Allanfearn, Inverness  
 1919 Russell, John, Wester Connage, Dalcross  
 1884 Rutherford, W. E. Oliver, Netherdale, Beauly  
 1908 Scott, Frank, 25 Queensgate, Inverness—*Freu Life Member*  
 1921 Shaw, Alister, Farraline Main, Errogie, Inverness  
 1883 Shaw, Duncan, W.S., Inverness  
 1901 Shaw, John A., Slackbuie, Inverness  
 1921 Shaw, William, Easter Aberchaldier, Gorthlick, Inverness  
 1919 Smith, Charles, Cantraydown, Croy, Gollanfield, Inverness-shire  
 1921 Smith, John M., Dores, Inverness-shire  
 1900 Smith, R. A., Wester Lovat, Beauly  
 1923 Smith, R. O., Wester Lovat, Beauly  
 1911 Stevenson, James L., Dunachton House, Inverness  
 1901 Stewart, Charles D., Ballindarroch, Scanipont  
 1923 Stewart, James C., Secretary, Farmers' Union, 3 Inglis Street, Inverness  
 1887 Stewart, J. C., Glenmodart, Moldart  
 1914 Stuart, Francis, Kerrowdown, Drumadrochit, Inverness  
 1920 Symon, Captain James, D.S.O., Board of Agriculture for Scotland, 59 Academy Street, Inverness

## Admitted

- 1893 Thom, Allan Gilmour, Canna  
 1920 Tinker, J. Charley, Kilmartin, Glen Urquhart, Inverness  
 1921 Urquhart, William, Rhuaire, Lochmaddy  
 1916 Urquhart, William N., 1 Union Street, Inverness  
 1902 Walker, James, Sawmills, Inverness  
 1920 Watt, Alexander J., Agricultural College Offices, Dingwall  
 1908 Weir, James, Auchnasaul, Spean Bridge  
 1912 Williams, E. J. N., of S. Electric Works, Waterloo Place, Inverness  
 1923 Williamson, John, Cradlehall, Inverness  
 1902 Wolfenden, William, Duke of Gordon Hotel, Kingussie

## MORAY

- 1901 Adam, Alexander, Kinneddar, Lossiemouth  
 1923 Adam, James, jun., Sweetthillock, Alves, Forres  
 1889 Adam, John, St Winefrides, Elgin  
 1903 Allan, D. M., Ballintomb, Granttown-on-Spey  
 1920 Allan, James, jun., Sweetthillock, Drainie, Lossiemouth  
 1910 Allan, Peter, Earlsmill, Brodie, Forres  
 1911 Allan, William, Level, Longmorn, Elgin  
 1899 Anderson, William, Wester Manbeen, Elgin  
 1901 Black, W. Rose, of Leuchars, Elgin  
 1911 Brodie of Brodie, Brodie Castle, Forres  
 1921 Brown, Gilbert, Wood Manager, Wood Manager's Office, Granttown-on-Spey  
 1920 Brown, Miss Isabella, Dipple, Fochabers  
 1893 Brown, James, Burnside, Fochabers  
 1895 Brown, James Paterson, Dipple, Fochabers  
 1920 Brown, William, Burnside, Fochabers  
 1911 Brown, William, Canmore, Alexander Terrace, Forres  
 1908 Bruce, Charles Minto, The Langcot, Forres  
 1878 Bruce, D. C., High Street, Fochabers  
 1919 Bruce, Major the Hon. Robert, Dunphail, Morayshire  
 1922 Bruce, William Dalgarno, Bogs of Blervie, Forres  
 1912 Burr, William, Highland Agricultural Co., Ltd., Elgin  
 1901 Butler, Patrick, Hillhead, Forres  
 1901 Calder, Charles C., Assistant Factor, Earlsmill, Forres  
 1906 Cameron, Angus, Seafeld Estates Office, Elgin  
 1919 Cant, W. A., Lawrenceston, Forres  
 1919 Clark, W. D., Blervie Castle Farm, Forres  
 1923 Cook, Captain James Alexander, Inshellan, Plusscarden, Elgin  
 1921 Coughlan, Peter, Westerlee, Grant Street, Elgin  
 1920 Cowie, James F., Auctioneer, Elgin  
 1899 Cumming, J. F., The Dowans, Aberlour-on-Spey  
 1923 Cumming, Ronald Stuart, Cardow, Knockando  
 1874 Cumming, Sir William G. Gordon, of Altyre, Bart., Forres  
 1902 Cunningham, David J., Factor's House, Fochabers

## Admitted

- 1907 Davidson, A. E., Barleymill, Brodie, Forres  
 1923 Dawson, Harry Barlow, Kintrae, Elgin  
 1901 Dawson, R. A., Gordon Castle Farm, Fochabers  
 1899 Dean, James, Crown Inn, Findhorn, Forres  
 1921 Dean, James F., North Darkland, Elgin  
 1894 Dean, William, Midtown, Findrassie, by Elgin  
 1922 Douglas, George, Calcots, Elgin  
 1870 Duff, J. W. Wharton, of Orton, Orton House, Fochabers  
 1904 Edgar, James, jun., last known address, Gordon Arms Hotel, Fochabers  
 1923 Edward, James, Woodside, Mostowle, Elgin  
 1923 Edward, William, Kirkhill, Rothes  
 1923 Falconer, James, jun., Strathmayne, Elgin  
 1920 Falconer, William, North Alves, Forres  
 1899 Fenwick, William, Darnaway Estates Office, Earlsmill, Forres  
 1911 Ferrie, W. B., Home Farm, Kinloss, Forres  
 1893 Fettes, John, Westertown, Fochabers  
 1893 Fettes, William, Corskie, Garmouth  
 1901 Findlay, John F., Trochelhill, Fochabers  
 1893 Forbes, Robert, Woodhead, Forres  
 1911 Forsyth, John M., Haughland, Elgin  
 1923 Forsyth, Richard Kenneth, 112 High Street, Forres  
 1895 Fraser, Alexander, Lochyhill, Rafford, Forres—Free Life Member  
 1923 Fraser, Donald, jun., Hempriggs, Alves, Forres  
 1923 Fraser, George, Oldtown, Roselisle, Burchhead  
 1923 Fraser, James Lewis, of Rosehaugh, Elgin  
 1911 Fraser, Louis Grant, Covessa, Duffus, Elgin  
 1923 Fraser, Thomas, Gordon Arms Hotel, Elgin  
 1893 Fraser, William, Knockomie, Forres  
 1922 Geddes, Alexander, Essie, Garmouth  
 1914 Grant, A. Mackenzie, Seafeld Square, Rothes, Elgin  
 1911 Grant, Allan, Wester Alves, Forres  
 1893 Grant, Charles, last known address, Drumbain, Rothes  
 1894 Grant, James, of Glen Grant, Rothes  
 1901 Grant, John C., Garvault, Advie, Strathspey  
 1899 Grant, J. W. H., of Wester Elchies, Carron House, Carron, Morayshire  
 1901 Grant-Peterkin, Montagu James, of Grange, Forres  
 1920 Grigor, J. C., Engineer, Vulcan Works, Market Street, Forres  
 1880 Haddow, P. M., Orton, Orton Station, R.S.O.  
 1905 Hastlow, George Reginald, Auchnasgall, Granttown-on-Spey  
 1920 Hutcheson, John, Bogside, by Elgin  
 1921 Imlah, William, Manager, Oragganmore, Ballindalloch  
 1911 James, Robert, jun., Lawrenceston, Forres  
 1920 James, William Laing, Mannachy Farm, near Forres  
 1897 Johnston, Colonel C. J., The Craig, Lossiemouth  
 1923 Kerr, William, Miltonhill, Alves, Forres  
 1911 Knight, Alexander, Longhill, Lhanbryde  
 1921 Laing, James, Brandston, Lochhill, Elgin  
 1923 Laing, James, Castle of Asleish, Alves, Forres

**Admitted**

- 1923 Laing, William, M.R.C.V.S., Greenbank, Elgin  
 1911 Laing, William, Burntack, Dunphail, Forres  
 1908 Law, Alfred M., Carswell, Alves  
 1898 Law, Arthur W., Whiterow, Forres  
 1909 Law, Owen J., Mains of Sanquhar, Forres  
 1909 Law, William, Solicitor, Elgin  
 1898 Leitch, Andrew B., Inchstelly, Alves, Forres  
 1919 Leitch, James MacKessack, Carden, Alves, Forres  
 1920 Leslie, James, Park of Innes, Urquhart, Elgin  
 1902 Longmore, James, Georgeville, Moss Street, Elgin  
 1923 Macarthur, Donald, Newton of Darnaway, Forres  
 1902 M'Bain, George, Linkwood Distillery, Elgin  
 1911 M'Connachie, James, Muirside, Brodie  
 1898 M'Culloch, Alexander, Ardivot, Lossiemouth  
 1903 M'Donald, Andrew H., Mount Barker, Grantown-on-Spey  
 1920 Macdonald, James, Byres Farm, Spey Bay, Moray  
 1919 Macdonald, Patrick James, Kirkhill, Elgin  
 1922 M'Ewen, John, Monaughty Forest, by Elgin—Free Life Member  
 1886 M'Gregor, Captain James, Balmenach, Cromdale  
 1899 M'Intyre, John, 33 Commerce Street, Lossiemouth  
 1923 Mackenzie, Alexander, Standingstones, Alves, Forres  
 1911 Mackenzie, William, Home Farm, Newton, Elgin  
 1898 Mackessack, Charles A., Royal Bank, Elgin  
 1882 Mackessack, George R., of Ardyne and Roseisle, Ardyne, Elgin  
 1923 M'Kessack, Miss J. I., Mains of Alves, Forres  
 1882 Mackessack, R. H., Newton of Struthers, Forres  
 1911 M'Lean, Alexander, Corgyle Mains, Aberlour, Morayshire  
 1898 Maclean, George A., of Westfield, Elgin  
 1891 MacLeod, Colonel Norman, of Dalvey, Forres  
 1906 MACPHERSON-GRANT, Sir George, of Ballindalloch, Bart.  
 1921 M'William, H. A., Nether Bogside, Elgin  
 1909 M'William, John, Shempston, Duffus, Elgin  
 1909 MacWilliam, W. S., Garbity, Orton Station  
 1920 Marshall, John, Dundurcas, Rothies  
 1893 Mathieson, Alexander, Doonpark, Forres  
 1893 Mavor, George, Oluny, Forres  
 1923 Mavor, James, Chapleton, Forres  
 1911 Mavor, John, Earnside, Alves, Forres  
 1901 Mavor, Richard, Wellhill, Forres  
 1912 Morrison, Andrew, Brodie Mains, Forres  
 1873 Muirhead, George, Speybank, Fochabers  
 1911 Mustard, John, Easter Covessea, Duffus, Elgin  
 1913 Mutch, Alfred, Keam, Duffus  
 1920 Nicoll, John P., East Mains, Elgin  
 1913 Pearson, James, Altyre Estates Office, Forres  
 1923 Penny, William Mill, Invernairn, Rose Avenue, Elgin  
 1894 Petrie, David, Gilston, Elgin  
 1919 Petrie, George Grant, Inchbroom, Elgin

**Admitted**

- 1919 Petrie, William, Pitairlie, Elgin  
 1909 Phillip, John, Dandaleith, Craigellachie  
 1918 Prodders, Charles, Knockando, Morayshire  
 1901 Ramsay, William, of Longmorn, Elgin  
 1904 Reid, George, Tamdhu Distillery, Knockando, S.O.  
 1895 Reid, John, Gladhill, Garmouth, Elgin  
 1899 Rhind, Alexander, Muirton, Kinloss  
 1923 Rhind, Alexander, Hatton, Kinloss, Forres  
 1923 Rivers, Lieut.-Commander Harry Dunbar Dunbar, Littlehaugh, Glen of Rothies, Rothies  
 1923 Robertson, Alexander, Auchenhalrig, Spey Bay  
 1911 Robertson, Charles G., Tullochgriban, Grantown-on-Spey  
 1922 Robertson, Ian Stephen, Linkwood, Elgin  
 1896 Robertson, James, Barmuckity, Elgin  
 1911 Robertson, John, Brodieshill, Alves, Forres  
 1870 Robertson, William A., Mayfield, Forres  
 1899 Rose, William M., Toreduff, Alves, Forres  
 1911 Ross, Simon, Coltfeld, Alves, Forres  
 1923 Ross, William A. Hugh, 15 New Street, Rothies  
 1920 Roynan, James, New Alves, Alves, Elgin  
 1923 Roynan, Robert, Mayne, Elgin  
 1920 Russell, A. H., Darklass Farm, Brodie  
 1920 Russell, Alastair Gilzean, Myreside, Elgin  
 1906 Russell, James, 21 Reidhaven Street, Elgin  
 1911 Rutherford, George W., M.R.C.V.S., Forres  
 1897 Scott, Peter, Mains of Moy, Forres  
 1911 Sharp, William, 2 Seafeld Square, Rothies  
 1913 Shaw, James, Nether Tomdow, Knockando  
 1911 Shepherd, Alex., Orbliston, Fochabers  
 1893 Shiach, Gordon Reid, Ardgilzean, Elgin  
 1923 Smith, Donald Gordon, Drumbain, Rothies  
 1896 Smith, James M., Salterhill, Elgin  
 1901 Smith, Lieut.-Col. J. Grant, Inverallan, Grantown-on-Spey  
 1900 Smith, Samuel M'Call, Rose Avenue, Elgin  
 1921 Souter, James Stephen, Greyfriars Ironworks, Elgin  
 1893 Stephen, Alexander, Coxton, Lhanbryde, Elgin  
 1920 Stephen, Alexander, Rothills, Duffus, Elgin  
 1894 Stewart, John, Crossroads, Cromdale  
 1911 Strathdee, William, Allarburn, Elgin  
 1909 STUART, Lord Colum Crichton, Pluscarden, Elgin  
 1906 Stuart, Robert Dick, Rothies  
 1920 Taylor, Alexander F., Unthank, Duffus, Elgin  
 1919 Taylor, Cecil C., Lochinver, Elgin  
 1920 Taylor, Stephen, Kirkhill, Alves, Forres  
 1920 Thomson, Ian Kenneth, Burgie House, Forres  
 1923 Tindal, James L., Wester Moy, Forres  
 1911 Tulloch, John, New Forres, Forres  
 1908 Tulloch, William D., Grangegreen, Forres  
 1899 Turner, James Stuart, New Elgin School, Elgin  
 1923 Urquhart, John, Elwick Bank, Elgin  
 1920 Vernal, Neil, Surredale Stud, Linkwood Road, Elgin

## Admitted!

- 1922 Watson, Robert Harley, Benenden,  
Moray Place, Elgin  
1911 Wattie, William K., Couston, Elgin  
1921 Webster, Norman R., Pittendreich,  
Elgin  
1921 Wishart, F. W. F., Westerfolds, Elgin

## NAIRN.

- 1920 Adam, James, Park, Nairn  
1902 Adam, Walter, Lion Cottage, Nairn  
1901 Allan, James, Penich, Auldearn, Nairn  
1901 Allan, James A., Broomhill, Nairn  
1923 Anderson, W., Heathmount, Nairn  
1911 Arnott, John M., Wester Clune, Lethen,  
Nairn  
1923 Arthur, James M'A., Boghole, Auldearn,  
Nairn  
1922 Bain, John, Foynesfield, Nairn  
1911 Barron, Colin C., Broombank, Nairn  
1921 Brodie, Mrs. Lethen House, Nairn  
1919 Calder, John, Farmer, Raitloan,  
Nairn  
1878 Cameron, Dr James Angus, of Firhall,  
Nairn  
1911 Campbell, Angus M., Budgate, Cawdor,  
Nairn  
1901 Clark, Alexander, Blackpark, Nairn  
1911 Clark, Donald, Woodlands, Kildrummie,  
Nairn  
1922 Clarke, Brodie Augustus, of Shanghai,  
c/o Hastings A. Clarke, of Achareidh,  
Nairn  
1883 Donaldson, H. T., Banker, Nairn  
1923 Ellis, Charles M., Golfview, Nairn  
1892 FINLAY, Lord, K.C., of Nairn, Nairn  
1907 FORBES, Captain the Hon. W. R.  
D., Lower Cairnglass, Gollanfield,  
Nairn  
1920 Fraser, James, Welltown, Cawdor  
1922 Johnston, Donald, Rait Castle, Nairn  
1896 Law, Charles E., Brackie, Nairn  
1920 LEVEN AND MELVILLE, Earl of, Glen-  
ferness House, Nairn  
1896 Macarthur, Alexander, Nairnside, Caw-  
dor, Nairn  
1912 M'Intosh, James, Bellvat Cottage, Ard-  
clach, Nairn  
1919 Mackay, Lieut. Joseph, Glebe End,  
Nairn  
1921 M'Kenzie, Kenneth, Meikle Kildrummie,  
Nairn  
1912 Mackintosh, James J., Garlic Hill, Auld-  
earn  
1920 M'Pherson, Donald, last known address,  
Torrich, Nairn  
1901 Mann, John, Cairnglass, Nairn  
1908 Masson, George, Mill of Lethen, Auld-  
earn, Nairn  
1914 Munro, Alexander, Rehiran, Cawdor,  
Nairn  
1922 Munro, Donald, Winewell, Little Mill,  
Nairn  
1923 Munro, Captain D. J., C.M.G., R.N.,  
Achindoune, Cawdor  
1911 Munro, William, Factor, Glenferness,  
Nairn  
1920 Philip, James, Coulmony Maina, Dun-  
phail  
1892 Rand, John F., Geddes Mill, Nairn  
1911 Reid, John S., Milton of Kilravock,  
Cawdor, Nairn  
1901 Robertson, Hugh Newton of Cawdor,  
Nairn

## Admitted.

- 1878 Robertson, John S., Cawdor Estate  
Office, Nairn  
1920 Robertson, William, Tomlunquhart,  
Nairn  
1901 Rose, Donald, Crook, Nairn  
1920 Rose, Colonel Hugh, C.M.G., of Kil-  
ravock, Kilravock Castle, Gollanfield,  
Nairn  
1906 Squair, John, Janefield, Waverley Road,  
Nairn  
1902 Stuart, Henry, The Retreat, Nairn  
1884 Stewart, D. A., Lochdhu, Nairn  
1911 Taylor, Alexander, Fornightly, Lethen,  
Nairn  
1922 Taylor, John, Burnside of Lethen, Auld-  
earn  
1901 Tocher, James, Blairmore, Cawdor,  
Nairn  
1920 Townsend-Cook, W., Hilton of Delnies,  
Nairn  
1908 Tulloch, Charles, Braevall, Lethen,  
Nairnshire  
1911 Tulloch, James, Mains of Moyness,  
Nairn  
1907 Watson, William, Home Farm, Cawdor  
Castle, Nairn

## ORKNEY AND SHETLAND.

## ORKNEY.

- 1912 Calder, Alex., Sebay, Tankerness,  
Orkney  
1911 Clark, George, Swanbister, Orphir,  
Orkney  
1910 Clouston, John, Graemeshall, Holm,  
Orkney  
1919 Corrigan, William, Northbigging, Har-  
ray  
1921 Craigie, John, Falquoy, Rousay  
1870 Cromarty, William, West End House,  
St Margaret's Hope, Orkney  
1920 Cutt, Robert, Melsetter Farm, Melsetter,  
Stromness  
1894 Davidson, William Henry Bain, Kirk-  
wall  
1919 Flett, John George S., Nistaben,  
Harray  
1920 Gibson, George, Avilshay, Rousay  
1896 Heddle, Peter Sinclair, Westbanks,  
Holm, Orkney  
1912 Horne, Robert Strong, Swanney, Bersay,  
Orkney  
1901 Ironside, William A., Bankhead, Sand-  
wick, Orkney  
1899 Irvine, James, Stove Farm, Sanday,  
Orkney  
1879 Johnstone, James, Orphir House,  
Orphir  
1922 Kennedy, George S., Farm Manager,  
Bow, Burray, Orkney  
1906 Kennedy, John, Bow, Burray, Orkney  
1920 Kirkness, Mark M., Quoystray, Rousay,  
Kirkwall  
1920 Learmonth, George, jun., Fow Quoyloo,  
by Stromness  
1908 Logie, John, Trumland Lodge, Rousay,  
Orkney  
1920 Macaulay, Alexander, N.D.A., County  
Organiser, Agricultural College Office,  
Kirkwall  
1922 Mackay, John, Stairwady, Stromness

Admitted

- 1892 MacLennan, William, Grainbank, Kirkwall  
 1904 Marwick, William, Estate Office, Walls, Orkney  
 1887 Maxwell, Henry, Housebay, Stronsay  
 1920 Maxwell, Peter, Orquill, St Ola  
 1920 Moar, James M., Auctioneer, Stromness  
 1920 Peace, David B., Jun., Auctioneer and Valuator, Kirkwall  
 1922 Petrie, Roderick, Gillietrang, Burray, Orkney  
 1884 Reid, Alfred, Braebuster, Kirkwall  
 1920 Rendall, John, Skail, Rendall  
 1919 Ritch, Robert, Grind Rendall, Orkney  
 1928 Ritch, William, Kierfold, Sandwick, Orkney  
 1906 Robertson, James M. H., Lyking, Sandwick, Stromness  
 1920 Skea, Andrew, Ackerskaill, Kirkwall  
 1904 Skea, James G., Ayre, Deerness  
 1922 Tomlinson, John, Halcro, St Margaret's Hope, Orkney  
 1920 Twatt, James, Grain Farm, St Ola, Kirkwall  
 1912 Walls, Andrew William, Gutterpool, Holm, Orkney  
 1901 Ward, W. Cowper, Scar House, Sanday  
 1920 Wood, William T., Balfour Mains, Balfour, Kirkwall

SHETLAND.

- 1908 Adie, James A., Voe, Shetland  
 1920 Anderson, George Keith, Butcher, Lerwick  
 1920 Anderson, John, *last known address*, Laarsund, Hillswick  
 1920 Anderson, Thomas, *last known address*, Laarsund, Hillswick  
 1918 Anderson, Thomas J., Cairnfield, Lerwick  
 1921 Armstrong, Miss Elizabeth M. S., N.D.D., Agricultural College Office, Lerwick  
 1919 Bowie, James Cameron, M.B., C.M., J.F., Park Hall, Bixter, Sheffield  
 1909 Bruce, Mrs Mary D., of Sumburgh, Shetland  
 1911 Craigie, James J., Ordale, Baltasound, Shetland  
 1920 Jamieson, Adam James, St Clair Cottage, Scalloway  
 1919 Jamieson, William, Cliff, Baltasound, Shetland  
 1911 M'Dougall, W. Laidlaw, Estate Office, Sumburgh, Shetland  
 1907 Mackay, Hugh, Mailland, Baltasound, Shetland  
 1912 Mackay, William John, Castlepark, Lerwick  
 1891 Manson, Peter, Lunna, Shetland  
 1916 Manson, Peter F., Maryfield, Bressay, Lerwick  
 1920 Manson, Thomas Robert, Ladybank, West Sandwick  
 1920 Milne, Charles, B.Sc. (Agric.), 28 Commercial Street, Lerwick  
 1920 Roy, Allan, Factor, Garth Estate Office, Lerwick  
 1911 Sandison, J. P., Mandeville, Uyasound, Shetland  
 1919 Smith, John, Farmer and Dealer, Sandwick  
 1911 Umphray, William Hay, Reawick, Shetland  
 1901 White, Mountford Adie, Belmont, Uyasound, Shetland  
 1920 Williamson, James G. S., Greenfield, Haroldswick

ROSS AND CROMARTY.

Admitted

- 1920 Bannatyne, Miss Mary, N.D.D., Instructor, Agricultural College Office, Dingwall  
 1909 Beaton, John A., Bayfield, Kessock  
 1893 Binning, James, Strathpeffer  
 1920 Brims, Robert, Pitcalyeen Mains, Nigg  
 1901 Brook, Alexander William, Corn Merchant, Invergordon  
 1922 Brooke, Sir Robert W., Bart., D.S.O., M.C., Fearn Lodge, Ardgay, Ross-shire  
 1921 Brown, Mrs Flora, Applecross, by Kyle, Ross-shire  
 1911 Brown, John, F.R.C.V.S., Invergordon  
 1912 Brown, Nell, Admiralty Cottages, Invergordon  
 1914 Budge, R. E. W., Bayfield Mains, Nigg Station, Ross-shire  
 1912 Cameron, A., Donnie, Edderton  
 1921 Cameron, David, Culbo Mains, Cullucudden, Conon Bridge  
 1911 Cameron, James, Balnakeyle, Munloch  
 1896 Cameron, Kenneth Murray, Balblair Edderton  
 1921 Cameron, Robert C., Killen, Avoch  
 1911 Campbell, Colin, Shiel House, Glenashiel, Ross-shire  
 1919 Campbell, Don., Balnabeen, Conon Bridge  
 1921 Cook, Charles, Drumderfitt, Munloch, Ross-shire  
 1906 Cormack, Alex., Shandwick Mains, Nigg Station, Ross-shire  
 1920 Coull, James, Knock Manse, Garrabost, Stornoway  
 1906 Couper, William H., Wester Balloan, Muir of Ord  
 1918 Craig, Charles, Killilian, Kintail, Kyle of Lochalsh  
 1911 Craigen, James M., Kirkton, Balblair  
 1911 Cran, David R., Ardmore Edderton  
 1918 Cross, Don. T., Alcaig, Conon Bridge  
 1920 Cruickshank, Alexander, Torran, Delny, Ross  
 1911 Cruickshank, Thomas M., Fodderty House, Dingwall  
 1909 Cumming, James, Fairfield House, Dingwall  
 1893 Cuthbert, Lieut.-Colonel Thomas W., C.M.G., D.S.O., Achindunie, Ainess  
 1899 Davidson, A. B., Lower Kincaig, Invergordon  
 1920 Douglas, George, Arboil, Fearn  
 1903 Douglas, George, Nigg, Nigg Station  
 1911 Duncan, Arthur H., Solicitor, Dingwall  
 1892 Duncan, William J., Solicitor, Dingwall  
 1911 Dunnett, Andrew, Newton of Novar, Evanton  
 1921 Fletcher, Captain A. M., Stornoway  
 1884 Fletcher, J. D., of Rosegham, Avoch  
 1896 Forsyth, Ian Asher, Balintraid, Delny  
 1904 Fowler, John A., Drumore, Munloch  
 1919 Fraser, Alexander, General Merchant, 4 Bank Street, Invergordon  
 1893 Fraser, Donald, Thistlebrae, Saltburn, Invergordon  
 1903 Fraser, Lieut.-Colonel J. W., C.M.G., O.B.E., Leckmole, Garve  
 1898 Fraser, Malcolm F., Culcairn, Invergordon  
 1923 Gallie, John George, Morangie, Tain  
 1912 Gill, A. T., Rosskeen, Invergordon  
 1896 Gill, William Hope, Tomich, Invergordon  
 1896 Glendinning, G. E., Glastallich, Nigg Station, Ross-shire  
 1914 Gordon, Alex. P., Binald, Portmahomack, Ross-shire

## Admitted

- 1911 Gordon, Thomas, Munloch Main, Ross-shire  
 1921 Grant, Donald, Factor, Fairburn, Muir of Ord  
 1920 Grant, Gordon, Cromartie Estates Office, Kildary  
 1920 Grant, John A., Wester Rarichie, Nigg Station, Ross-shire  
 1911 Grant, Walter S., Royal Station Hotel, Fortrose  
 1920 Grant, William, Kinkell Castle, Conon Bridge  
 1921 Gray, James, Drum, Avoch  
 1884 Henderson, John, Town Clerk, Fortrose  
 1889 Henderson, Thomas, Fortrose  
 1908 Hope, Stephen J., Kinnahaird, Strathpeffer  
 1905 Hosack, J. A. Campbell, Alness, c/o Hosack & Sutherland, Royal Bank of Scotland, Oban  
 1922 Houston, John, Estate Manager, Scatwell, Strathpeffer  
 1920 Jack, Adam Kennedy, Balmeanach, Culbokie, Conon Bridge  
 1921 Jackson, Miss A. C., of Swordale, Evanton  
 1920 Jackson, Miss Catherine, N.D.D., Instructress, Agricultural College Office, Stornoway  
 1911 Kemp, Charles, Gateside, Munloch  
 1928 Knight, O. S., Edderton Mains Farm, Edderton  
 1919 Lackie, William, Estate Manager, Brahan, Conon Bridge  
 1928 Lea, L. M. E., Tarradale, Muir of Ord  
 1888 Littlejohn, Alexander, of Invercharron, Ardgay  
 1919 Logan, Duncan, Ussie, Conon Bridge  
 1898 Macdonald, Donald, Glencoe, Tain  
 1923 M'Donald, D., Fettes, Redcastle  
 1920 Macdonald, James, Drumdyre, Cullucudden, Conon Bridge  
 1919 Macdonald, James, Leanaig, Conon Bridge  
 1920 M'Donald, John, Newton, Avoch  
 1909 Macdonald, T., Croftcrunie, Tore  
 1921 M'Donald, Thomas George, Craiglands, Fortrose  
 1921 M'Farlane, James, Novar Home Farm, Evanton  
 1911 MacFarquhar, John, Cullucudden, Conon Bridge  
 1914 MacGillivray, Finlay, Aldie, Tain  
 1906 M'Gillivray, Captain John, of Calrossie, Nigg, Ross-shire  
 1920 M'Gregor, Robert Grant, 20 Clyde Street, Invergordon  
 1920 M'Intosh, William, Oleythorps, Conon Bridge  
 1911 M'Intosh, William, Tarradale Hotel, Muir of Ord  
 1897 MacIntyre, Alex. Mackay, St Martin's, Conon Bridge  
 1875 MacIntyre, Robert, Seafield House, Strathpeffer  
 1907 Mackay, David J., of Heathmount, Tain  
 1901 Mackenzie, Colonel A. F., of Ord, Ord House, Muir of Ord  
 1892 Mackenzie, Sir A. G. Ramsay, of Coul, Bart., Strathpeffer  
 1873 Mackenzie, Andrew, Dalmore Distillery, Alness  
 1908 Mackenzie, Charles, British Linen Bank, Tain  
 1901 M'Kensie, Donald, Meikle Ussie, Conon Bridge  
 1900 Mackenzie, Edward J., Hilton Farm, Tain—*Free Life Member*  
 1907 Mackenzie, E. N. Burton, Kilcoy Castle, Killearnan, R.S.O.

## Admitted

- 1900 M'Kensie, Eric G., Ardross Mains, Alness  
 1920 Mackenzie, Ian, Easter Balloan, Urray  
 1919 Mackenzie, John, Somerby, Dingwall  
 1911 Mackenzie, John, Balmaln, Conon Bridge  
 1895 Mackenzie, Sir Kenneth J., of Gairloch, Bart., Conon House, Conon Bridge  
 1928 Mackenzie, Robert, Kildun, Dingwall  
 1888 Mackenzie, William, Procurator-Fiscal, County Buildings, Dingwall  
 1809 Mackenzie, Major William Farquharson, Dalmore Distillery, Alness  
 1911 Mackintosh, A. A., The Red House, Strathpeffer  
 1923 M'Lean, Alexander, Lettoch, Kessock  
 1923 M'Lean, Donald M., Hilton, Muir of Ord  
 1923 M'Lean, Mrs Elizabeth, Lettoch, Kessock  
 1913 MacLennan, John, Estate Office, Strathconan, Muir of Ord  
 1923 M'Lennan, K. (Hamilton & Co.), Dingwall  
 1920 Macleod, Angus, B.Sc., County Organiser, Agricultural College Office, Stornoway  
 1901 MacLeod, Captain R., *last known address*, of Cadboll, Invergordon Castle, Invergordon  
 1921 Macmonnies, D. B., Agricultural Costings Officer, Roseville, Fortrose  
 1923 M'Queen, Archibald, Coul Mains, Strathpeffer  
 1923 Macrae, Duncan, Ardelve, Kyle  
 1923 Macrae, J. (of Macrae & Sons), Dingwall  
 1920 Macrae, Richard A. F., Fairburn Mains, Muir-of-Ord  
 1878 M'Raw, Donald, 42 Harbour Street, Ploekton, Ross-shire  
 1911 MacWilliam, Ralph S., Garguston, Muir-of-Ord  
 1912 Maitland, Andrew Gordon, Architect, Tain  
 1911 Mann, John, Bog Farm, Munloch  
 1911 Middleton, Frank A., Rosefarm, Cromarty  
 1922 Middleton, G. G., Davidston, Cromarty  
 1908 Middleton, Thomas, Cornstown, Conon Bridge  
 1898 Middleton, Walter Ross Taylor, Solicitor, Dingwall  
 1923 Milne, William John, Cromartie Estates Office, Kildary  
 1911 Monro, Major C. L. D., of Allan, Fearn, Ross-shire  
 1905 Moore, D. H., Drummond, Evanton  
 1920 Morison, Douglas, Navty, Cromarty  
 1901 Mundell, C., Delny Farm, Delny  
 1911 Munro, Alexander, Arkendeith, Avoch  
 1928 Munro, Donald, The Poplars, Ardgay  
 1913 Munro, Finlay, Rockfield, Fearn  
 1888 Munro, Sir Hector, of Foulis, Bart., Dingwall  
 1898 Munro, Hector, V.R., Fearn  
 1920 Munro, John, Blairduh, Redcastle, Killearnan, Ross-shire  
 1920 Munro, John, Eathie, by Cromarty  
 1901 Munro, Kenneth, Tullich, Munloch  
 1884 Murray, Charles J., of Lochcarron, Dingwall  
 1919 Murray, John, Torgorm, Conon Bridge  
 1921 Nicol, James, Culbo Farm, Culbokie, Conon  
 1920 Noble, H. C., Estate Office, Contin, Strathpeffer  
 1921 Noble, John, Taswig, Munloch  
 1911 Noble, Thomas, Contin, Strathpeffer  
 1908 Paterson, William, Ironmonger, Invergordon  
 1874 Paterson, William G., Ord, Invergordon  
 1923 Paul, Harold D., Munloch Mains, Munloch, Ross-shire  
 1898 Perrins, C. W. Dyson, Ardross Castle, Alness

**Admitted**

- 1900 Peterkin, John W., Dunglass, Conon Bridge  
 1901 Peterkin, William, Dunglass, Conon Bridge  
 1919 Pirie, James Watt, Kilcoy Farm, Redcastle, Ross-shire  
 1906 Rattray, Charles Gordon, Broomhill, Muir-of-Ord  
 1901 Rattray, John C., "Bellevue," Muir-of-Ord  
 1923 Reid, Bruce, New Kelso, Strathcarron  
 1884 Reid, N., New Kelso, Strathcarron, Ross-shire  
 1923 Robertson, Mrs J. C., Newmore, Invergordon  
 1904 Robertson, Peter D., Castlecraig, Nigg Station  
 1930 Robertson, William, Knockmuir, Avoch  
 1922 Robertson, William S., Farm Manager, Tarbat Home Farm, Kildary  
 1902 Ross, Andrew George, Millcraig, Alness  
 1920 Ross, Donald, Bainsgore, Fearn  
 1908 Ross, Donald (Wallace, Fraser, & Co.), Tain  
 1893 Ross, George, Old Shandwick, Nigg  
 1893 Ross, George A., Rhyne House, Fearn  
 1876 Ross, James, 20 Shore Road, Invergordon (61 Leamington Terrace, Edinburgh)  
 1921 Ross, John, Milton Mills, Kilda  
 1921 Ross, John, Muirtown Mains, Fairburn, Muir-of-Ord  
 1892 Ross, John F., Pitealnie, Nigg  
 1908 Ross, Sutherland M. (Wallace, Fraser, & Co.), Tain  
 1887 Ross, General Sir Walter Charteris, K.B.E., C.B., of Cromarty, Cromarty  
 1901 Ross, William, Bridgend, Dingwall  
 1923 Russell, John B., M.R.C.V.S., c/o John Brown, F.R.C.V.S., Invergordon  
 1923 Scott, Francis, Blackstand, Fortrose  
 1892 Scott, James, Fearn  
 1893 Simpson, David William, Arcan Mains, Muir of Ord  
 1911 Sinclair, A., Shantullich, Munloch  
 1897 Spence, Alexander O. Stewart, Farness, Invergordon  
 1923 Stewart, Miss Katherine Shaw, Dalcraig, Kessock  
 1923 Stewart, Miss Winifred Shaw, Dalcraig, Kessock  
 1911 Stirling, Major A., Garve  
 1920 Stirling, Captain John, of Fairburn, Muir-of-Ord  
 1921 Thompson, A. M., Conon Brae, Conon Bridge  
 1921 Urquhart, Duncan H., Kerrisary, Poolcwe, Ross-shire (University Union, Hill Place, Edinburgh)  
 1911 Urquhart, John, Ironmonger, Dingwall  
 1911 Walker, Robert, Contullich, Alness, Ross-shire  
 1920 Watt, Alexander J., Agricultural College Offices, Dingwall  
 1911 Wight, Evan, Mackay's Hotel, Tain

**Admitted**

- 1901 Wood, James, Lochslin, Fearn, Ross-shire  
 1912 Wooley, Thomas, Royal Hotel, Tain  
 1899 Wotherspoon, George, Estate Office, Newmore, Invergordon  
 1901 Young, George, Tarrel, Fearn, Ross-shire  
 1901 Young, James G., Cadboll, Fearn, Ross-shire  
 1921 Young, Thomas H., Upperwood, Poyntzfield, by Invergordon

**SUTHERLAND.**

- 1911 Anderson, Andrew, General Merchant, Bonar Bridge  
 1906 Cameron, James D., Kirkton, Golspie  
 1913 Campbell, Ian Macgregor, Glencassley, Invershin  
 1893 Campbell, J. R., Glencassley, Invershin  
 1920 Crawford, David Rhifall, Strathnaver, Kinbrace  
 1923 Davidson, W. G., Solicitor, Golspie  
 1901 Dudgeon, William John, Crakaig, Loth  
 1906 Elliot, Captain Thomas, Sciberscross, Rogart  
 1922 Grant, George J., Pulrossie Farm, Dornoch  
 1923 Grant, William, Flood Farm, Dornoch  
 1923 Grant, William Alexander, Evelix Farm, Dornoch  
 1908 Haldane, H. P., Skelbo, Sutherland  
 1900 Hardie, James F., Clashmore House, Clashmore, Dornoch  
 1899 Hill, Edward R., Naviedale, Helmsdale  
 1874 Hill, Robert Robertson, Naviedale, Helmsdale  
 1920 Joss, Michael Benny, Clynesh, Brora  
 1923 Lean, W. G., Dunrobin Home Farm, Golspie  
 1922 Macaulay, Alfred C., Bank House, Golspie  
 1899 Macaulay, A. N., Banker and Factor, Golspie  
 1923 McCallum, James, Sutherland Estate Office, Golspie  
 1923 MacDonald, John, Sutherland Arms Hotel, Golspie  
 1890 Mackintosh, John, last known address, Froncy, Dornoch  
 1911 Menzies, James, Blairich, Rogart  
 1923 Mitchell, George Robertson Lawson, Ribigill, Tongue, Lairg  
 1911 Mitchell, James, Ribigill, Tongue  
 1923 Mitchell, Robert Marcus Gunn, Ribigill, Tongue, Lairg  
 1919 Morrison, Alexander, of Kinloch (and Rio Penitent, Punta Arenas, Chile), Kyle of Tongue, Sutherland  
 1901 Mundell, C., Delny Farm, Delny  
 1901 Mundell, Walter, Dalchork, Lairg  
 1923 Munro, Duncan, Ospisdale Mains, Dornoch  
 1915 Rose, Angus, Coul, Skelbo  
 1911 SUTHERLAND, The Duke of Dornoch Castle, Golspie



## 8.—BORDER DIVISION.

## EMBRACING THE

## COUNTIES OF BERWICK, PEEBLES, ROXBURGH, AND SELKIRK.

## BERWICK.

- Admitted  
 1920 Aitchison, George, Primrose Hill, Duns  
 1900 Aitchison, John, Lochton, Coldstream  
 1915 Aitchison, Robert, Hardiesmill Place, Gordon  
 1914 Aitchison, William, Hyndside Hill, Gordon  
 1919 Aitken, Walter, Swinton, Bridgend, Duns  
 1914 Alton, R. Scott, Legerwood, Earlston  
 1914 Bathgate, James, Wedderlie, Westruther, Gordon  
 1920 Beattie, Robert, Newbigging Walls, Lauder  
 1898 Bell, J. P. F., Springbank, Ayton  
 1907 Bell, Robert B., Northfield, St Abbs  
 1898 Black, James, Kuthven, Coldstream  
 1904 Blackadder, John W., Ninewell Mains, Chirnside  
 1920 Blackie, Bertram Smith, West Newton, Whitsoame, Chirnside  
 1920 Bogue, John, Craigsford Mains, Earlston  
 1891 Broomfield, George L., Solicitor, Lauder  
 1919 Brotherston, Peter, Blackburn, Grants-house  
 1921 Brotherstone, Thomas G., Home Byres, Greenlaw  
 1914 Bruce, Robert, Thirlestane, Lauder  
 1914 Bryson, George, Corahie, Earlston  
 1915 Calder, Alexander M., Lintlaw, Chirnside  
 1884 Calder, T. A., Billie Mains, Chirnside  
 1920 Calder, William T., Oxenrig, Coldstream  
 1920 Carmichael, Robert, Seed Merchant, Coldstream  
 1878 Carr, Robert, The Elms, Berwick-on-Tweed—*Free Life Member*  
 1920 Clark, John, Legers, Greenlaw  
 1905 Clarke, William D., West Ord, Berwick-on-Tweed  
 1914 Clyde, Hugh, Bluecairn, Lauder  
 1919 Cockburn, George Brown, Chapelhill, Cockburnspath  
 1902 Cockburn, James, Harcarse, Duns  
 1920 Cockburn, John, Chapelhill, Cockburnspath  
 1919 Colt, Ronald S. H., Northfield House, St Abbs  
 1872 Cowe, Peter, Old Castles, Chirnside  
 1919 Cowe, Robert C., of Butterdean, Grants-house  
 1901 Crow, James Hewat, West Foulden, Berwick-on-Tweed  
 1899 Darling, Alexander, Governor's House, Berwick-on-Tweed  
 1880 Darling, Thomas, Adderstone House, Berwick-on-Tweed

- Admitted  
 1907 Davidson, Jonah, St Leonards, Berwick-on-Tweed  
 1882 Dickinson, Robert, Longcroft, Oxtou  
 1899 Dickinson, William Bell, Longcroft, Oxtou  
 1891 Dodds, Robert, Blackadder Bank, Chirnside  
 1888 Doughty, James T. S., Ayton  
 1904 Douglas, A. M., West Mains, Gordon  
 1922 Dove, George Herbert Jardine, Mellerstain Estate Office, Gordon  
 1920 Drummond, James, Darlingfield, Gordon  
 1914 Durie, Norman Percival, Ramrig, Duns  
 1920 Dykes, Robert, Lauder Barns, Lauder  
 1887 Dykes, Thomas, Dowlaw, Coldingham  
 1920 Edgar, Peter Francis, Camphill, Berwick-on-Tweed  
 1912 Elder, John, Tweedside Implement Works, Berwick-on-Tweed  
 1921 Elder, John Irvine, Agricultural Engineer, 64 Castlegate, Berwick-on-Tweed  
 1919 Elliot, Andrew D., of Kettleshiel, Duns  
 1922 Elliot, Charles S., Nisbet Hill, Duns  
 1900 Elliot, David P., Nesbit Hill, Duns  
 1893 Elliot, Frank, Middlestots, Duns  
 1921 Elliot, Frank J., Cranklaw, Duns  
 1910 Elliot, William W., Harehead, Duns  
 1920 Erskine, Brig.-Gen. J. F., C.B., C.M.G., M.V.O., Bonkyl Lodge, Duns  
 1920 Falconer, Hugh C., Auchencrow Mains, Reston  
 1882 Ferguson, J., Duns Castle Estate Office, Duns  
 1922 Finlay, Major Ian Archibald, Temple Hall, Coldingham  
 1898 Fleming, John, Bowerhouse, Oxtou  
 1906 Forrest, Allan, Boon, Lauder  
 1897 Forrest, Robert Jack, Preston, Duns  
 1884 Fulton, John, Hatchednie, Coldstream  
 1909 Gibb, Allan Gordon Shirra, Wyndhead, Lauder  
 1914 Gibb, George G. Shirra, Viewfield, Lauder  
 1920 Gibb, Miss M. L. Shirra, of The Roan, Lauder  
 1878 Gibb, Robert Shirra, M.B., F.H.A.S., The Roan, Lauder—*Free Life Member*, 1885  
 1922 Gilchrist, James Dunlop, Bogan Green, Coldingham  
 1919 Gray, Alex. C., Kimmerghame Mains, Duns  
 1894 Grieve, Andrew, Flass, Gordon  
 1888 Grieve, James, Rumbletonlaw, Greenlaw  
 1914 Grieve, William, Rawburn, Duns  
 1892 Haldane, Fred., Westwood, Reston  
 1898 Hardy, George, Redheugh, Cockburnspath  
 1898 Hardy, William, Jun., Whitelaw, Edrom

Admitted

- 1908 Henderson, George, East Morriston, Earliston  
 1914 Herbertson, James M., Fans, Earliston  
 1881 Herbertson, Robert H., Fans, Earliston  
 1919 Hogarth, George, Edrington Castle, Berwick-on-Tweed  
 1919 Hogarth, George Burn, Fouliden Hill, Berwick  
 1914 Hogg, Alexander, Chapel Mains, Earliston  
 1893 Hogg, George, Blackhouse Farm, Reston  
 1907 Hogg, George, jun., Penmanshiel, Grant's House  
 1898 Hogg, William, Birkenhead, Earliston  
 1920 Hogg, Wm., jun., Clackmae, Earliston  
 1900 Holmes, Charles H., of Rathburne, Duns  
 1898 Holmes, The Earl of, The Hirsel, Coldstream  
 1880 Hood, James, Linhead, Cockburnspath  
 1900 Hood, John, Mid-Edrom, Edrom  
 1886 Hope, Colonel Charles, of Cowdenknowes, Earliston  
 1876 Hunter, James, of Antonshill, Goldstream  
 1910 Huntly, James, Hirsel Poultry Farm, Coldstream  
 1896 Inch, John, Quixwood, Grant's House  
 1922 Jacobsen, Gerald J., Reston Mains, Reston  
 1893 Johnston, R. F., The Cottage, Peelwalls, Aytoun  
 1920 Keddle, James, Huntington, Lauder  
 1907 Leggat, J. Morison, last known address, Legerwood, Earliston  
 1859 Lockie, William, Choicelee, Duns  
 1919 Logan, David, Ferney Castle, Reston  
 1920 Lunn, Robert, Bartleshill, Coldstream  
 1893 Lyal, Alexander, Old Greenlaw, Greenlaw  
 1923 Lyal, David, Cammerlaws, Westruther, Gordon  
 1920 Lyal, Robert John, Greenknowe, Gordon  
 1914 Lyal, Thomas Brown, Greenknowe, Gordon  
 1914 M'Creath, W. R., Berwick-on-Tweed  
 1907 Macdonald, A. D., Lennel, Coldstream  
 1901 M'Dougal, Capt. Arthur Robert, Blythe, Lauder  
 1898 M'Dougal, James, Bassendean, Gordon  
 1898 M'Dougal, John, Lylestone, Lauder  
 1881 Mack, Joseph, of Berrybank, Reston  
 1914 M'Kerrow, George E., Addinston, Oxton  
 1906 Mather, Matthew, Printonan, Duns  
 1906 Mather, William, West Mains, Milne Graden, Coldstream  
 1921 Melkie, John, Langrig, Chirnside  
 1919 Mills, George H., Swinton Greenriggs, Duns  
 1898 Milne, Robert P., Nether Mains, Chirnside  
 1908 Mitchell-Innes, A. Harold, of Whitehall, Chirnside  
 1914 Moir, Charles John, Manderston, Duns  
 1898 Murray, James, Springbank, Reston  
 1898 Murray, Thomas, Brockholes, Grant's House  
 1901 Paterson, D. T., Sinclair's Hill, Duns  
 1914 Plenderleith, William, Sunwick, Berwick  
 1906 Porteous, Andrew M., Solicitor, Coldstream  
 1908 Prentice, John, Grain Merchant, Berwick-on-Tweed  
 1898 Purdie, Adam, Cranahawa, Duns  
 1919 Rand, John, Gainslawhill, Berwick-on-Tweed  
 1897 Robertson, William W., Whitsome Cottage, Gordon—*Free Life Member*  
 1874 Robson, John, Millknowe Cranahawa, Duns (Newton, Bellingham)

Admitted

- 1919 Rogerson, Peter, Horsley, Reston  
 1914 Runciman, George, Wantonwall, Lauder  
 1901 Russell, George A., The Crooks, Coldstream  
 1915 Rutherford, James, Kirkhill, Earliston  
 1921 Sanderson, Charles William, Birnieknowes, Cockburnspath  
 1915 Scott, Colonel Lord Henry F., Gledswood, Melrose  
 1910 Sharpe, Robert W., The Park, Earliston  
 1920 Short, Robert, Cammo Foundry, Duns  
 1882 Somervell, James, last known address, Spittal  
 1915 Souttar, W. G. W., Swinton Hill, Duns  
 1898 Stephenson, Thomas, Chapel, Duns  
 1920 Steven, Andrew, Upper Huntlywood, Earliston  
 1908 Stirling, Hugh B., Darlingfield, Gordon  
 1898 Stokoe, Thomas, Tweed Iron Works, Berwick-on-Tweed  
 1919 Swan, Thomas Allan, Whitsome Laws, Edrom  
 1899 Taylor, J. P. Rosa, Mungo's Walls, Duns  
 1915 Taylor, Lieut.-Colonel St J. Du Plat, D.S.O., Purves, Greenlaw  
 1923 Thomson, John, Bushel Hill, Cockburnspath  
 1885 Thomson, Samuel, 34 Castle Street, Duns  
 1898 Torrance, Thomas, Hutton Hall, Barns, Hutton, Berwick  
 1894 Turnbull, George Gillon, of Abbey St Bathans, Grant's House  
 1919 Veitch, Alexander R., Leeside, Berwick-on-Tweed  
 1888 Vincent, E. H., last known address, Lauder Barns, Lauder  
 1920 Virtue, Robert, Fawside, Gordon  
 1914 Waring, Major Walter, M.P., of Lennel, Coldstream  
 1908 Watson, G. Scott, Eccles Newton, Coldstream  
 1884 Watson, W. H., last known address, Ruthven, Coldstream  
 1898 Webster, John, Edrom-Newton, Edrom  
 1885 Welsh, Alexander, Seedsman, Coldstream  
 1912 Westgarth, George, Norham-on-Tweed  
 1830 Wight, James G., Greenwood, Grant's House  
 1922 Wilkie, Alexander, Pitmuir, Coldingham  
 1898 Wilkie, John, of Pitmuir, Coldingham  
 1898 Wilson, James H., Crumstane, Edrom  
 1900 Wilson, Philip, Corn Factor, Duns  
 1922 Wilson, Philip F. H., Corn Merchant The Knoll, Duns  
 1906 Wright, A. T., East Reston, Reston  
 1905 Wyllie, Alexander, Pathhead, Cockburnspath  
 1913 Young, R., Fogorrig, Duns

PEEBLES.

- 1922 Addison, George, Goatfoot, Skirling, Biggar  
 1903 Ainslie, John, Estate Office, Stobo  
 1919 Ballantyne, David, Barns, Peebles  
 1913 Ballantyne, Francis L., Stoneyhill, Walkburn  
 1906 Ballantyne, James, Blythbank, Dolphinton  
 1913 Ballantyne, John K., Walkburn

## Admitted

- 1919 Ballantyne, Tom H., Cardrona, Peebles  
 1913 Barr, John, Milkstone, Eddleston  
 1919 Beattie, Walter, Damhead, Innerleithen  
 1922 Bell, F. A., Juniper Bank, Walkerburn  
 1915 Blackwood, William T., W.S., Peebles  
 1920 Blair, Thomas, jun., Factor Manager, Rachan, Broughton  
 1920 Boyd, John Nimmo, Cardrona Mains, Peebles  
 1919 Brockie, Alex., Stoneypath, West Linton  
 1919 Brown, A. Forsyth, Kailzie Mains, Peebles  
 1905 Cairns, Andrew, Live Stock Salesman, Peebles  
 1919 Cairns, William, Eshieles, Peebles  
 1920 Campbell, Robert, Ferniehaugh, Dolphinton  
 1919 Capie, Alexander, Ingraston, Dolphinton  
 1881 CARMICHAEL, Lord, of Skirling, Murrayfield, Biggar  
 1921 Clark, Colin Fraser M'Duff, Mailingsland Farm, near Peebles  
 1902 Clark, R., Gosland, Biggar  
 1898 Clarkson, Alexander, Skirling Mill, Biggar  
 1919 Clarkson, Alexander, jun., Skirling Mill, Biggar  
 1892 Constable, George W., Traquair Estate Office, Innerleithen  
 1893 Cree, William, Kailzie, Peebles  
 1899 Cunningham, Captain John, of Leithen-hopes, Innerleithen  
 1920 Davidson, W. G., Farmer, Lyne, Peebles  
 1919 Dickson, John, Livingstone, Corstane, Broughton  
 1912 Dickson, John Stodart, Flemington, Dolphinton  
 1922 Dickson, Richard White, Drumelzier Haugh, Broughton  
 1905 Douglas, George, Earlypier, Eddleston  
 1884 Ellis, John, Laverlaw, Peebles  
 1882 Ferrousson, Sir James R., of Spitalhaugh, Bart., West Linton  
 1919 Findlay, Hope M'Queen, Stanhope, Broughton  
 1919 Fleming, Hugh H., Howford, Traquair, Peeblesshire  
 1906 Gairns, Alex. C., Cloverhill, Broughton  
 1919 Galbraith, George S., Rachan Mill, Broughton  
 1921 Graham, John, Blyth, Dolphinton  
 1879 Grant, John, Elm Bank, 41 March Street, Peebles  
 1915 Gray, Robert, Medwyn Mains, West Linton  
 1920 Haddow, James, Kilbucko House, Peebles  
 1905† HAY, Sir Duncan E., of Haystoun, Bart., Peebles  
 1919 Hogg, Mark, Kirklands, Innerleithen  
 1894 Jack, George, Harestanes, Dolphinton  
 1919 Jack, William Braidwood, South Parks, Peebles  
 1905 Johnston, John C., M.R.C.V.S., Drochil, Dolphinton  
 1919 Johnston, William, Drochil Castle, Dolphinton  
 1919 Kerr, Ralph, Woodhouse, Peebles  
 1905 Laidlaw, David, Hallismyre, West Linton  
 1884 Lindsay, James, last known address, Wester Happrew, Stobo  
 1919 Linton, James, Cademuir, Peebles  
 1921 Lumsden, Miss Mary Mackenzie, Kippit, Dolphinton  
 1920 Lumsden, R., Kippit, Dolphinton  
 1920 Lunn, Walter J., Hamildean, Peebles

## Admitted

- 1901 Macdonald, John, Whitfield, West Linton, Peeblesshire  
 1919 Mann, James, Castlecraig, Dolphinton  
 1898 Marshall, H. B., of Rachan, Broughton (17 Nelson Street, Edinburgh)  
 1919 Marshall, James R., Rachan, Broughton (17 Nelson Street, Edinburgh)  
 1907 Martin, William, last known address, Caberston, Walkerburn  
 1905 Masterton, Ebenezer B., Burnetland, Broughton  
 1915 Masterton, James, Bamflatt, Biggar  
 1885 Maxwell, James, Eddleston Bank, Eddleston  
 1922 Meikle, Robert, "Eshieles," Peebles  
 1905 Mitchell, Andrew D., West Loch, Eddleston  
 1908 Mitchell, H. N., Kingsneadows, Peebles  
 1906 Montgomery, Richard, Home Farm, Lamancha  
 1906 Paterson, Tom, Crookstone, Peebles  
 1906 Paterson, William, Crookstone, Peebles  
 1898 Patrick, James, Mailingsland, Peebles  
 1907 Philipson, Hyton of Stobo, Peeblesshire  
 1920 Philipson, the Hon. Mrs. Stobo Castle, Stobo  
 1919 Richardson, Adam, Kilbucko Mains, Biggar  
 1881 Ritchie, G. D., Chapelgill, Broughton  
 1906 Robertson, James Morton, Portmore, Eddleston  
 1922 Roy, James B., Rachan Mill, Broughton  
 1906 Russell, John, South Mains, Skirling  
 1898 Russell, William, Bounington, Peebles  
 1919 Sanderson, Adam, Croft-an-Righ, Dolphinton  
 1919 Sanderson, David, Netherurd Mains, Dolphinton, Peebles  
 1915 Simpson, Henry D., Peebles  
 1867 Smith, J. Turnbull, LL.D., Kingswood, Peebles  
 1919 Stewart, Hugh, West Bold, Walkerburn, Peebles  
 1900 Stewart, Thomas, Glenrath, Manor  
 1919 Stuart, Ben. C., Darnhall Mains, Eddleston, Peebles  
 1886 Thorburn, M. G., of Glenormiston, Innerleithen  
 1889 Thorburn, William, Craigerne, Peebles  
 1905 Thorburn, William, Hearstanes, Tweedsmuir  
 1906 Tudhope, James, Nether Falla, Eddleston  
 1898 Tudhope, J., Broughton Place, Broughton  
 1906 Watson, Robert, Edderston, Peebles  
 1907 Weir, Thomas, Robinsland, West Linton  
 1919 White, John, Noblehouse, Lamancha  
 1878 Williamson, Miss Katharine Isabella, of Cardrona, Peebles, c/o Messrs Mylne & Campbell, W.S., 86 Castle Street, Edinburgh  
 1923 Wilson, R. J., Easter Dawyck, Stobo, Peebles

## ROXBURGH.

- 1914 Aitchison, I. W., Linhope, Hawick  
 1922 Aitken, Andrew, Springwellie, Kelso  
 1920 Alexander, James, Harelaw, Hawick  
 1914 Allan, R. H., Smallholm Mains, Kelso  
 1920 Allen, George, Longnewton, St Boswells  
 1898 Anderson, Robert B., of Glenburn Hall, Jedburgh

Admitted

- 1915 Arnott, John, Haymount, Kelso  
 1886 Baillie, Colonel A. C., D.S.O., Harleyburn, Melrose  
 1922 Balfour, Captain C. J., of Newton Don, Kelso  
 1884 Ballantyne, David, Shaws, Newcastleton  
 1919 Ballantyne, Robert F., Linhope, Teviot-head, Hawick  
 1908 Barr, Samuel, Nottylees, Kelso  
 1920 Barr, Thomas, Buckholm, Galashiels  
 1923 Bell, John, Kirkton, Hawick  
 1898 Bell, John A., Ploughlands, St Boswells  
 1885 Bell, William Scott, yr. of Woll, Hawick  
 1923 Bell-Irving, James Jardine, of Makertoun, Kelso  
 1922 Bouglas, William, Hillsview, Jedburgh  
 1889 Boyd, Andrew, F.R.C.V.S., Melrose  
 1914 Brown, John C., Hundalee, Jedburgh  
 1893 Brown, Robert, 24 Bowmont Street, Kelso  
 1906 Brownlee, Robert C., Linton, Kelso  
 1914 Bruce, James Alexander, Easter Langlee, Galashiels  
 1920 Bruce, James Wood, Priestthaugh, Hawick  
 1920 Bruce, Robert, Sunnyside, Jedburgh  
 1908 Burns, William, Sunnyside, Hawick  
 1919 Clark, Arthur Atkinson, Factor, Minto Estates Office, Hawick  
 1893 Clark, John G., *last known address*, Mossburnford, Jedburgh  
 1897 Cochran, William E. A., Roansgreen, Newcastleton  
 1909 Connochie, Robert, V.S., St Boswells  
 1920 Cowan, James R. O., Kersknowe, Kelso  
 1919 Cowe, David, Stairrig Main, Kelso  
 1911 Cox, Thomas H. C., of Wooden, Kelso  
 1918 Curle, James, of Priorwood, Melrose  
 1911 Currie, Miss Evelyn T., Hoebridge, Melrose  
 1915 Dalgleish, William, Oakbank, Hawick  
 1921 DALKEITH, Earl of, Eildon Hall, St Boswells  
 1912 Dalrymple, Miss Mary Adelaide, of Ellistoun, St Boswells  
 1906 Davidson, Alexander, Whitton, Kelso  
 1898 Davidson, Andrew, Auctioneer, Melrose  
 1899 Davidson, Gilbert, of Burnfoot, Burnhead, Hawick  
 1914 Davidson, John, Adderston Shiels, Hawick  
 1898 Davidson, Mark Turnbull, Melrose  
 1898 Davidson, Richard, Swinnie, Jedburgh  
 1914 Deuchar, B., Balleknowe, Stichel  
 1919 Dodds, Thomas, Hardenpeel, Jedburgh  
 1908 Dodds, William, Clarilaw, St Boswells  
 1914 Donald, James, Palace Farm, Jedburgh  
 1898 Douglas, Andrew, of Saughtree, Newcastleton  
 1889 Douglas, Francis, Caverton Mill, Roxburgh  
 1906 Douglas, John, Swinside, Townfoot, Jedburgh  
 1906 Douglas, Thomas, of Gatehousecote, Hawick  
 1906 Douglas, Walter S., Hindhope, Jedburgh  
 1909 Douglas, William, Springwood Park, Kelso  
 1920 Dow, James, of Brotherstone, St Boswells  
 1920 Dow, Thomas, Bemersyde East End, St Boswells  
 1920 Dow, William R., of Brotherstone, St Boswells  
 1914 Dun, George, Tweed House, Melrose  
 1914 Dunlop, Colonel J., C.B., Struan, St Boswells  
 1930 Elliot, Archibald, Middles, Lilliesleaf

Admitted

- 1920 Elliot, Arthur, Hindhope, Jedburgh  
 1920 Elliot, James L., Hermiston, Lilliesleaf  
 1884 Elliot, Robert, Hermitage, Newcastleton  
 1906 Elliot, Robert T., Chatto, Kelso  
 1905 Elliot, Thomas, Kirndeane, Newcastleton  
 1916 Elliot, Thomas R., Attonburn, Kelso  
 1893 Elliot, Thomas Robert Barnewall, of Clifton Park, Kelso  
 1906 Ewing, Ian Alastair, of Mount Hooly, Jedburgh  
 1884 Fairbairn, J. J., of Fens, St Boswells  
 1913 Fenwick, Frank, Northhouse, Hawick  
 1895 Fleming, William, Hallrule, Bonchester, Hawick  
 1906 Fraser, Charles, St Helena, Melrose  
 1891 Fraser, M. P., Linton, Burnfoot, Kelso  
 1914 Gladstone, James, Wester Langlee, Galashiels  
 1894 Goodfellow, A., High School, Kelso—  
*Free Life Member*  
 1920 Graham, George R., Whitelee, Galashiels  
 1915 Graham, James, Crosshall, Kelso  
 1923 Graham, Miss Margaret, Floors Dairy, Kelso  
 1907 Graham, Robert, Kaimflat, Kelso  
 1920 Graham, William, Marcheleugh, Jedburgh  
 1921 Gray, Thomas, Ashkirkton, Hawick  
 1906 Greig, Major J. L., of Eccles, Kelso  
 1884 Grierson, Robert, Whitcheater, Hawick  
 1907 Grieve, Charles Walter, Brankholme Park, Hawick  
 1914 Grieve, Walter J., Southfield, Hawick  
 1890 GRIVFITH, Sir Richard Walde, of Hendersyde Park, Bart., Kelso  
 1895 Haddon, Andrew, Honeyburn, Hawick  
 1914 Haddon, A. Douglas, Royal Bank Buildings, Hawick  
 1914 Hamilton, James, Highridgehall, Kelso  
 1922 Hamilton, Thomas, Earlside, Hawick  
 1914 Hamilton, William, Earlside, Hawick  
 1892 Hay, Athole S., of Marlefield, Roxburgh  
 1911 Hay, Robert Athole, Marlefield, Roxburgh  
 1923 Heard, Walter, Headshaw, Ashkirk, Hawick  
 1914 Hedley, George, Howpasley, Hawick  
 1923 Hellyer, Laurence, Lanton Mill, Jedburgh  
 1920 Henderson, George, Kelso Foundry, Kelso  
 1914 Henderson, James, Wiltonburn, Hawick  
 1922 Henderson, Miss Margaret, Chisholme, Hawick  
 1920 Henry, Michael, Morridge Hall, St Boswells  
 1901 Hogarth, James, Prior Bank, Kelso  
 1922 Hogarth, Mrs M. W., Galalaw, Kelso  
 1923 Hogarth, R. R., Whitehillfoot, Kelso  
 1895 Hogarth, William Gray, Linton, Bankhead, Kelso  
 1920 Hogg, John, Merchant, Kelso  
 1920 Hogg, John, Sinton Parkhead, Hawick  
 1879 Hope, A. Peterkin, Morebottle, Kelso  
 1922 Hunter, William Coutts, Copland, Ancrum  
 1909 Hutcheson, David Soot, Broomhill, Melrose  
 1895 Hutcheson, William, Courthill, Kelso  
 1914 Inglis, Andrew, Nether Tofts, Hawick  
 1914 Inglis, Walter, Clerklands, Lilliesleaf  
 1919 Irvine, Charles, Jedburgh  
 1895 Jackson, James W., Hasendean, Hawick  
 1920 Jamieson, Ion, C.B., Langshaw, Galashiels  
 1887 Johnston, John S., Crailinghall, Jedburgh

## Admitted

- 1889 Johnston, William Lee, Oxnam Neuk, Jedburgh  
 1895 Johnstone, John, Elmbank, Melrose  
 1909 Kerr, H. F., Rawflat, Aserum  
 1890 Kidd, Henry, *last known address*, Lowood, Melrose  
 1914 Knox, Thomas, Martinshouse, Hawick  
 1913 Laidlaw, William, Whitelee, St Boswells  
 1919 Laing, John, Butchercoote, St Boswells  
 1914 Laing, Norman, Cleughhead, Bonchester Bridge, Hawick  
 1920 Laing, Thomas, Harrietfield, Kelso  
 1920 Laing, Walter, Goashen House, Kelso  
 1922 Lauder, James, Broomlees, Melrose  
 1884 Leadbetter, Hugh M., of Knowesouth, Jedburgh  
 1904 Leadbetter, Thomas Greenshields, of Spital Tower, Denholm  
 1919 Logan, Andrew, Timpendean, Jedburgh  
 1919 Logan, Henry, of Greenend, St Boswells  
 1873 Lyal, William, Govanbank, Gattonside, Melrose  
 1919 Lyle, Thomas, Nisbet Mill, Anorum  
 1900 Maben, James, Bairnkine, Jedburgh  
 1914 M'Connell, Andrew W., Scraesburgh, Jedburgh  
 1920 MacKenzie, Neil Stewart, Cappuck, Jedburgh  
 1887 M'Laren, D., of Fairnington, Roxburgh  
 1914 MacTaggart, Robert, Ingleside, Hawick  
 1906 M'Tier, J. Cameron, of Menslows, Jedburgh  
 1907 M'Turk, Alexander, M.R.C.V.S., 134 Roxburgh Street, Kelso  
 1909 Malcolm, William M., Softlaw, Kelso  
 1921 Marshall, Anthony Charles, of Cherrytrees, Kelso  
 1920 Mather, Charters J. (Messrs Laing & Mather), Kelso  
 1904 Mather, James B., Mellendean, Kelso  
 1893 Mather, R. V. (Laing & Mather), Kelso  
 1922 Manchlen, James H., Blakelaw, Kelso  
 1894 Michael, Reginald W., Kerchesters, Kelso  
 1911 Miller, James, Skelfhill, Hawick  
 1914 Minro, The Earl of, Minto House, Hawick  
 1886 Moffat, James, of Craick, Hawick  
 1898 Murray, William R., Charterhouse, Kelso  
 1914 Neilson, Walter Kerr, Hunthill, Jedburgh  
 1914 Ogilvie, Allister, Holme Lea, Kelso  
 1906 Oliver, Douglas, Hassendean Bank, Hawick  
 1880 Oliver, John, *last known address*, Borthaugh, Hawick  
 1893 Oliver, Lieut.-Colonel William James, of Lochside, Kelso  
 1893 Paton, E. Douglas, Braehead, St Boswells  
 1889 Paton, Major James, of Crailing, Jedburgh  
 1899 Pearson, Thomas Smith, of Otterburn, Roxburgh  
 1914 Porteous, J. A., British Linen Bank House, Newtown St Boswells  
 1906 Purves, William, Kersquarter, Kelso  
 1893 Rae, James William, Colmishill, Gala-shiels  
 1872 Renwick, John, Nurseryman, Melrose  
 1920 Riddle, William, Flatt, Newcastleton  
 1906 Rintoul, Captain A. Jeffrey, Ancrum Craig, Ancrum, Jedburgh  
 1894 Ritchie, D. N., of The Holmes, St Boswells  
 1893 Robertson, James, Morebattle Tofts, Kelso

## Admitted

- 1920 Robertson, James Stuart, Mainhouse, Kelso  
 1898 Robertson, R. A., Yetholm Mains, Kelso  
 1899 Routhead, A. J., Oakdene, Melrose  
 1904 Roxburgh, The Duke of, Floors Castle, Kelso  
 1913 Rutherford, Andrew, of Pinnacle, Ancrum  
 1910 Rutherford, Peter, Castlehill, Jedburgh  
 1919 Rutherford, Walter, *last known address*, Crailing Tofts, Roxburgh  
 1921 Sanderson, John Martin, Benrig, St Boswells  
 1920 Sanderson, William, Girrick, Kelso  
 1921 Sanderson, William Norman, Linton, Burnfoot, Kelso  
 1893 Scott, Arthur Francis, of Howcleuch, Langie, Jedburgh  
 1884 Scott, Charles, Milsington, Hawick  
 1889 Scott, Hon. Henry J., Harden, Hawick  
 1883 Scott, Hon. J. C. Maxwell, of Abbotsford, Melrose  
 1919 Scott, Major James Douglas Corse, of Synton, Hawick  
 1906 Scott, James, Overhall, Hawick  
 1914 Scott, James C., Broomlands, Kelso  
 1894 Scott, John, of Newton Borthaugh, Hawick  
 1906 Scott, John, Frogden, Kelso  
 1893 Scott, John, *last known address*, Jed-neuk, Jedburgh  
 1906 Scott, John M., Cessford, Kelso  
 1889 Scott, John Robson, of Newton, Jedburgh  
 1921 Scott, Matthew, Shankend, Hawick  
 1896 Scott, Robert C., Graden, Kelso  
 1922 Scott, Thomas, of Milsington, Hawick  
 1920 Scott, Thomas M'Craig, Wooden Mill Cottage, Kelso  
 1899 Scott, T. W. Robson, of Lanton Tower, Jedburgh  
 1922 Scott, Hon. Walter T. H., Harden, Hawick  
 1906 Scott, William F., Spylaw, Kelso  
 1920 Short, John, Borthwickbraeburnfoot, Robertson, Hawick  
 1883 Sinclair, C. G., Grahamslaw, Roxburgh  
 1914 Smith, George S., *last known address*, Whitehouse, St Boswells  
 1883 Smith, J. R. C., Mowhaugh, Kelso—*Free Life Member*  
 1881 Smith, R. C., Ormiston, Roxburgh  
 1906 Smith, T. D. Orlinton, Newlands, Kelso  
 1914 Smith, William, Rutherford, Kelso  
 1899 Snodgrass, Peter L., Charlesfield, St Boswells  
 1880 Somervall, J. A., of Hoselaw, Kelso  
 1907 Sprot, Major Mark, of Riddell, Lilliesleaf  
 1922 Steele, John, Edgerston, Jedburgh  
 1909 Stewart, James B., Faughill, St Boswells  
 1919 Stirling, James, Lempitlaw, Kelso  
 1908 Stirling, John W., Keramains, Roxburgh  
 1919 Storie, William R., Agricultural Implement Merchant, Kelso  
 1920 Storie, William Stevenson, Solicitor, Jedburgh  
 1906 Tait, David W. B., W.S., Edenside, Kelso  
 1894 Tait, R. M., Roxburgh Mains, Roxburgh  
 1897 Teacher, Donald M., of Spittal-on-Rule, Jedburgh  
 1913 Templeton, Thomas, Sandyknowe, Kelso  
 1909 Thomson, Major A. D., of Nenthorn, Kelso  
 1904 Thomson, Andrew F., of Cowbog, Morebattle, Kelso  
 1914 Thomson, Moffat S., of Lambden, Spots-mains, Kelso

Admitted

- 1899 Thomson, Thomas, Hobton, Ancrum  
 1897 Thomson, W. H., Over Roxburgh, Roxburgh  
 1889 Tress, George Russell, *last known address*, Whitelee, St Boswells  
 1894 Tress, William Maxwell, *last known address*, Fanghill, St Boswells  
 1920 Trotter, Charles, Contractor, St Boswells  
 1922 Trotter, Frank, Cheviot View, Newton St Boswells  
 1920 Trotter, Robert, sen., St Boswells  
 1908 Tudhope, James, Glendearg, Galashiels  
 1899 Tully, Alex. B., V.S., Kelso  
 1919 Tully, James, Houndridge, Kelso  
 1899 Turnbull, James, 3 Bridge Street, Kelso  
 1889 Turnbull, Mark, Melrose  
 1906 Turnbull, Walter, Wilton Mills, Hawick  
 1923 Turnbull, William, Easter Lilliesleaf, Lilliesleaf  
 1923 Usher, Alexander Balmer, Wells, Hawick  
 1914 Usher, Harry, Courthill, Hawick  
 1900 Usma, Sir Robert, of Norton, Bart., Wells, Hawick  
 1880 Waddell, Alex., of Palace, Jedburgh  
 1898 Walker, Alexander, Chemist, Jedburgh  
 1922 Watson, James, Greatridge Hall, Kelso  
 1894 Watson, J. M., *last known address*, Melrose  
 1914 Watson, John S., Easter Softlaw, Kelso  
 1889 Watson, T. Lindsay, Briery Yards, Hawick  
 1920 Wilson, James, Easter Essenside, Ashkirk, Hawick  
 1884 Wyllie, Alexander, Whitelee, Galashiels  
 1906 Yool, Thomas, Jedneuk, Jedburgh  
 1914 Young, John, Kippilaw Mains, St Boswells  
 1894 Younger, Wm., of Ravenswood, Melrose

SELKIRK.

- 1906 Barrie, Walter, Sundhope, Yarrow  
 1920 Brockie, William, Hutlerburn, Selkirk  
 1916 Brown, John, Philiphaugh Farm, Selkirk  
 1899 Burns, James (George Burns & Sons, Engineers), Galashiels  
 1889 Connochie, Thomas D., V.S., Selkirk  
 1922 Connochie, W. D., M.R.C.V.S., Selkirk  
 1921 Davidson, George, jun., Ettrick Shaws, Selkirk

Admitted

- 1920 Douglas, W., Catslackburn, Yarrow  
 1920 Dun, Andrew George, Laidlawstiel, Clovenfords  
 1915 Dun, John (of John Dun & Co., Merchants), Galashiels  
 1920 Dundas, William Claxton, M.A., LL.B., British Linen Bank Buildings, Selkirk  
 1912 Elliot, John, Blackhaugh, Clovenfords  
 1889 Elliot, John, Meigle, Clovenfords  
 1906 Elliot, Walter, Newhall, Clovenfords  
 1923 Glendinning, Henry, Williamhope, Clovenfords  
 1878 Grieve, James, Howden, Selkirk  
 1914 Lindsay, John Vassie, jun., Torwoodlee Mains, Galashiels  
 1896 Linton, Andrew, Gilmanscleuch, Selkirk—*Free Life Member*  
 1909 Linton, William Thomson, Oakwood, Selkirk  
 1919 Logan, Robert, Caddonlee, Clovenfords  
 1914 Mill, John S., Greenhill, Selkirk  
 1922 Mitchell, James, Henderland, Selkirk  
 1880 Mitchell, Thomas, Howford, Selkirk  
 1880 Muir, John, Fernielee, Galashiels  
 1897 Owens, William R., of Peel, Clovenfords  
 1912 Pate, Samuel, The Rink Farm, Galashiels  
 1919 Patterson, John, Thirlestane Hope, Ettrick, Selkirk  
 1919 Penrice, Robert Frame, Ashiestiel Farm, Clovenfords  
 1885 Plummer, Charles H. S., of Sunderland Hall, Selkirk  
 1908 Pollok, John, Heatherlie Hill, Selkirk  
 1906 Pringle, J. Lewis, of Torwoodlee, Galashiels  
 1906 Roberts, Alexander F., of Fairniee, Clovenfords, Galashiels  
 1914 Roberts, John, jun., Wellwood Park, Selkirk  
 1919 Scott, Major James Douglas Corse, of Synton, Hawick  
 1880†Scott, John, of Gala, Galashiels  
 1907 Stalker, Donald G., The Hall, Galashiels  
 1914 Stark, Robert, Railway Station, Selkirk  
 1923 Stark, Robert Gordon, Croft House, Selkirk  
 1906 Steel, Major Samuel Strang, of Philiphaugh, M.P., Selkirk  
 1915 Stewart, Robert, Lewinshope, Selkirk  
 1883 Turnbull, W. George, Heatherlieburn, Selkirk  
 1914 Wilson, Thomas, Ladhope, Yarrow, Selkirk

## ENGLAND AND WALES.

## Admitted

- 1899 Abram, Laurence, Serey's School, Blackford, Wedmore, Somerset  
 1920 Aitken, Andrew, c/o Messrs Charles Sharpe & Co., Ltd., Sleaford, Lincolnshire  
 1920 Aitkenhead, Charles, Carr House, New Seaham, Sunderland  
 1902 Alder, Thomas Bogue, New Etal Grange, Cornhill-on-Tweed  
 1919 Allen, Frederick William (J. Harrison Carter, Ltd.), "Haslemere," Lambert Road, North Finchley, London, N.W.  
 1914 ALLENDALE, Viscount, Bywell Hall, Stocksfield-on-Tyne, Northumberland  
 1900 Allison, Herbert W., *last known address*, c/o Mr Short, Home Farm, Ingestre, Stafford—*Free Life Member*  
 1893 Allison, Hubert, Orleans Club, 29 King Street, St James', London, S.W. 1  
 1922 Anderson, A. W., Lairbeck, Keswick  
 1912 Anderson, C., East Chevington, Acklington  
 1921 Anderson, George G., Oriental Club, Hanover Square, London, W.  
 1921 Anderson, Sir John, Bart. (Messrs P. & W. Anderson, Ltd.), 199 Piccadilly, London, W. 1  
 1920 Anderson, John Taylor, *last known address*, Chopwell Woods, Victoria Garesfield, Durham  
 1920 Anderson, R. M., Agency Manager, Warden Insurance Co., Ltd., 21 Ironmonger Lane, Cheapside, London, E.C. 3  
 1850 Anderson, Robert Hood, Devonshire Club, London  
 1889 Anderson, William D., Chestnut Hill, Keswick  
 1911 Annett, Henry, Widdrington, Acklington  
 1912 Anstruther, Henry Torrens, Old Courthouse, Whitechurch, Aylesbury  
 1920 Appleby, Captain T., Harehope Farm, Eglington, Alnwick  
 1912 Arnold, Edwin Ross, 6 Giltspur Street, London, E.C. 1  
 1897 Ashby, S. F., 140 Liverpool Road, Birkdale, Southport—*Free Life Member*  
 1888 Aveling, T. L., Rochester  
 1913 Ballam, E. J. C., Maple House, Woodridge Road, Ipswich  
 1905 Ballantyne, Henry A., The Lawn, Staplegrave, near Taunton, Somerset  
 1890 Bamford, Henry, jun., Leighton Iron Works, Uttoxeter  
 1913 Bankin, Wm. Albert, Lushill, Highworth, Wilts.  
 1899 Barber, Robert, African Chambers, 19 Oldhall Street, Liverpool  
 1895 Barford, James G. (of Barford & Perkins), Peterboro  
 1920 Barr, John B., Presson, Cornhill-on-Tweed  
 1880 Barrett, Robert Bell, Skipton Castle, Skipton  
 1896 Barron, James, Heathcote Farm, Warwick—*Free Life Member*  
 1920 Bartram, James (Vacar Ltd.), 12 Silver Street, Holborn, London, W.C. 1

## Admitted

- 1906 Batters, Walter P., Liwyn Dun, Caerwys, Flint.  
 1920 Bean, J. H., Tansley Hill House, Dudley, Worcestershire  
 1899 Beattie, James C., Boustead Hill, Burgh by Sands, Carlisle  
 1903 Beavan, Jim, Oorby Bridge, Wetherall, Carlisle  
 1919 Bell, G. F., Mindrum, Northumberland  
 1895 Bell, Robert, M.D., 10 Thorney Court, Palace Gate, London, W.  
 1920 Bell, W. T. (Robey & Co., Ltd.), Hillside, South Park, Lincoln  
 1910 Bentall, Edmund E. (E. H. Bentall & Co., Ltd.), Heybridge, Maldon, Essex  
 1921 Berry, G., 25 Hope Street, Crewe  
 1900 Berwick, William, Stravithie, Northwick, Norfolk  
 1919 Bethell, Thomas P., "Crown Works," Boundary Place, Liverpool  
 1906 Beveridge, Henry E., Army and Navy Mansions, 109 Victoria Street, London, S.W.  
 1900 Bickerton, Henry N. (National Gas Engine Co., Ltd.), Ashton-under-Lyne  
 1885 Birch, W. de Hoghton, Hoghton Estate Office, Walton Hall, Preston—*Free Life Member*  
 1915 Bird, G. Bonham, *last known address*, Holcombe, Dawlish  
 1919 Black, William, Benachie, Cuckfield, Haywards Heath, Sussex  
 1902 Blackshaw, John F., Restormel, Harlow, Essex  
 1920 Blackstone, G. M. (Blackstone & Co., Ltd.), Stamford  
 1900 Blegg, Ernest W. H., Greenhill, Cheadle, Staffordshire  
 1910 Bland, Charles (R. J. Fulwood & Bland), 81 Beenden Street, London, N.  
 1921 Bleloch, Robert, Assoc. M.I.M.E., Lanton, Heathside Park Road, Woking, Surrey  
 1883 Bonallo, W. C., Estate Office, Locko Park, near Derby  
 1922 Brassey, H. L. C., M.P., Apethorpe Hall, Peterborough  
 1914 Briggs, Walter, Linden Hall, Borwick, Carnforth, Lancashire  
 1919 Briggs, Mrs Walter, Linden Hall, Borwick, Carnforth, Lancs.  
 1894 Brock, Hugh B. P., Stoke Lodge, Bletchley, Bucks  
 1875 Brochie, G., 18 St Hilda's Terrace, Whitby  
 1894 Brown, Hugh, Chilgrove, Chichester  
 1919 Brown, Hugh, jun., Arlington Mains, Guildford  
 1918 Brown, James J., Clydesdale, Crewe  
 1920 Brown, Mrs (of Messrs A. & J. Brown), Hedge Farm, St Albans, Herts, England  
 1921 Brown, Robert, Chevington Moor, Widdrington, Northumberland  
 1922 Browne, Major A., Callaly Castle, Whittingham, R.S.O., Northumberland

Admitted

- 1878 Browns, Colville, M.R.A.C., Swanley Junction, Kent—*Free Life Member*  
 1922 Bruce, Miss I. M., Mahott Hall, Felton, Northumberland  
 1922 Brunwin, G. E., Haverings, Rayne, Braintree  
 1870 Bryan, F. G. D., Drumpellier, Brunswick Road, Gloucester  
 1919 Brydie, Alexander, Rectory Farm, Payes, Middlesex  
 1922 Bull, B. W., N.D.A., Agricultural Adviser, Nitrate Trading Co. Ltd., 41 Eastcheap, London, E.C. 3  
 1890 Burkitt, William, B.Sc., N.D.D., Grange Hill, Bishop Auckland—*Free Life Member*  
 1877 Burr, John M., 1 Clonmel Road, Fulham, London, S. W.  
 1894 Burrell, Charles, Thetford, Norfolk  
 1900 Burton, John H., 14 Arundell Road, Weston-super-Mare—*Free Life Member*  
 1882 Burton, Dr M. B., *last known address*, Orwell, Lindley, Huddersfield  
 1920 Callander, Robert C., Culgaith, Carlisle  
 1878 Cameron, H. E., 66 North Road, Highgate, London, N. 6  
 1903 Cameron, John, Home Farm, Assington, near Colchester  
 1920 Cameron, Thomas Wright Moir, M.A., B.Sc., M.R.C.V.S., School of Tropical Medicines, London  
 1882 Campbell, Rear-Admiral H. J. Fletcher, C.B., Beech Lodge, Wimbledon Common  
 1907 Carter, George, Engineering Works, Dunstable  
 1920 Carter, J. J., Managing Director, Messrs Crossley Bros., Ltd., Openshaw, Manchester  
 1920 Casares, Emilio R., jun., 62 Oxford Street, London, W. 1  
 1922 Chew, Robert Selby, Chopwell Wood, Rowlands Gill  
 1922 Chichester, Major Charles Hamlyn, Hall, Barnstaple  
 1884 Clark, J. M., Featherstone Castle, Haltwhistle  
 1873 Clark, William, *last known address*, 2 Victoria Embankment, Darlington  
 1881 Clark, W. A., 12 Onslow Square, London, S. W.  
 1911 Clarke, Walter (Cupiss, Ltd.), Diss, Norfolk  
 1884 Clinton, H. E. Pelham, *last known address*, Bath  
 1919 Cochrane, William, Little Todham, Midhurst, Sussex  
 1912 Colam, R. Leigh, Houw Hoek, Sandstead, Surrey  
 1894 Colvill, Robert, 3 Cromwell Road, Hove, Sussex  
 1896 Combe, J. Searth, 18 Haldane Terrace, Jesmond, Newcastle-on-Tyne  
 1915 Conscher, Murray Blair, The Royal Farms, Windsor  
 1908 Coopers, Sir George A., Bart., 26 Grosvenor Square, London, W. 1  
 1919 Corbett, S. Edwin (Thomas Corbett), Perseverance Iron Works, Shrewsbury  
 1891 Coward, T. A., c/o The Manager, London City and Midland Bank, Northallerton—*Free Life Member*  
 1921 Cowleson, John J., The Calde, Southminster, Essex  
 1875 Craig, H. V. Gibson, c/o W. Birch Reynardson, Ardwell House, Tetworth, Oxon  
 1890 Craig, James, *last known address*, The Banks, Newdigate, Surrey

Admitted

- 1898 Crawford, Lionel W., Pelham House, Pelham Road, Retford  
 1913 Cridlan, John J., Maisemore Park, Gloucester  
 1923 Croal, James G., Riffington, Cornhill-on-Tweed  
 1896 Crombie, Walter G., Caenwood Grange, Beulah Hill, London, S.E. 19  
 1883 Cross, Adam F., Lampport Hall, Northampton  
 1868 Cruikshank, Edward C., The Sandringham, Torquay  
 1898 Cryer, John, 132 Cliff Wood Mount, Bradford Road, Shipley, Yorks—*Free Life Member*  
 1922 Cumming, Dr John, "The Elms," Beverley Road, Hull  
 1882 Cunningham, T. D. S., Stratton, Godstone, Surrey  
 1906 Curle, Robert Andrew, Chinthurst, Shalford, Guildford  
 1900 Curr, David, Parton, Wigton, Cumberland  
 1906 Curr, James, Home Farm, Deinham, Maryport  
 1920 Cuthbert, Edward, Brinkhough, Longhorsley, Northumberland  
 1894 Daine, Herbert S., Spurstow, Tarporley, Cheshire—*Free Life Member*  
 1896 Daine, Mrs (née Fraser), Claveton, Seel Road, Huyton, Liverpool—*Free Life Member*  
 1895 Dallas, James, Springfield, East Parade, York  
 1894 Davidson, D. J. Russell, *last known address*, 29 Victoria Street, London  
 1921 Davidson, Hamish Reid, B.A., University Farm, Gravel Hill, Cambridge  
 1893 Davidson, John, The Burtleys, Frensham, Farnham, Surrey  
 1911 Davidson, John D., 30 Park Place, Cardiff—*Free Life Member*  
 1895 Davidson, William, Kearswick, Kirby Lonsdale, Westmoreland—*Free Life Member*  
 1894 Davidson, William, East Learmonth, Cornhill-on-Tweed  
 1890 Davidson, William, Cattle Salesman, Beal House, Beal, Northumberland  
 1887 Davies, Edward Smith, Seedgreen Park, Stourport, Worcestershire—*Free Life Member*  
 1920 Davis, Bernard F., *last known address*, (Nitrogen Fertilisers, Ltd.), Winchester House, Old Broad Street, London, E.C. 2  
 1921 Davis, H. (Davis & Co.), 36 George Street, Oxford  
 1907 Dawkins, Charles W. (Massey Harris Co., Limited), 54 and 55 Bunhill Row, London, E.C. 1  
 1908 Dawson, William, M.A., B.Sc., School of Forestry, Cambridge  
 1920 Deans, R. Montgomery, 9 Glebe Road, Wallasey, Cheshire  
 1899 Dellafield, A. H., 37 The Avenue, Brondesbury Park, London, N.W. 6—*Free Life Member*  
 1922 Dellar, T. B. (Condurp Ltd.), 78 Fore Street, London, E.C. 2  
 1899 Dempster, John, jun., Herriesdale, Ashburton Road, Birkenhead  
 1901 Denny, William, Narborough, Norfolk  
 1911 Dickson, R. H. Bruce, Speen, Newbury  
 1888 Dickson, Thomas A., Estate Office, Overstone Park, Northampton—*Free Life Member*  
 1895 Dixon, Albert Alexander, Tanwood House, Chaddesley Corbett, nr. Kidderminster, Worcestershire—*Free Life Member*



## Admitted

- 1895 Dobbie, *Emilius, last known address*,  
Trench, Troubridge, Kent
- 1871 Donne, Henry, The High Croft, Pains-  
wick, Stroud, Glos.
- 1922 Dons, E. (Nitrate Trading Co. Ltd.), 41  
Eastcheap, London, E.C. 3
- 1897 Douglas, A. Hugh, Cortworth House,  
Wentworth, Rotherham
- 1878 Drysdale, David, Satis House, Leward's  
End, Saffron Walden, Essex
- 1930 Duffus, Mrs Etta, Penniwells, Elstree,  
Herts
- 1922 Duffus, John O., Penniwells, Elstree,  
Herts
- 1894 Dunbar, A. Duff, V.S., 2 Savoy Hill,  
Victoria Embankment, London, W.C. 2
- 1908 DUNCAN, Sir James, 6 Fenchurch  
Avenue, London, E.C. 3
- 1879 Duncan, John, Manor Farm, Middleton,  
King's Lynn
- 1882 Duncan, John W., Coldrey, Bentley,  
Farnham, Surrey
- 1882 Duncan, Robert, *last known address*,  
Berwick Farm, Stamford River, Essex
- 1884 Dunn, James, *last known address*, 29  
Clavendish Place, Jesmond, New-  
castle-on-Tyne
- 1921 Ebdon, Robert J., West Farm, Fulwell,  
Sunderland
- 1920 Eccles, E. E., 55 Drayton Gardens,  
London, S.W. 10
- 1911 Edgar, Alexander, Shirley, Croydon
- 1895 Egginton, Arthur, 11 St Michael's Road,  
Bedford
- 1915 Elder, William Henry, Paddock Hill,  
Smeeth, Kent
- 1923 Elliot, George, Brockdam, Cathill, North-  
umberland
- 1907 Ellis, William, Merton Grange, Gamlin-  
gay, Sandy, Beds
- 1905 Ellison, Francis Beaumont, 24 Augustus  
Road, Edgbaston, Birmingham
- 1882 Ensor, Thomas H., 54 South Street,  
Dorchester—*Free Life Member*
- 1922 Errington, Roger, Victoria Mills, Sun-  
derland
- 1930 Etherington, James G., Thorpe Thewles,  
Ferryhill, Co. Durham
- 1919 Evans, Arthur George (Messrs Ruston &  
Hornsby, Ltd.), Waddington House,  
Waddington, Lincoln
- 1902 Eve, Sir H. Trustram, F.S.I., 2 St  
Paul's Square, Bedford
- 1909 Ewing, Arthur R., Ph.D., 23 Claremont  
Road, Leamington Spa, Warwickshire
- 1921 Ewing, Ian Orr, Naworth House, by  
Brampton, Cumberland
- 1913 Fagan, T. W., M.A., The Department of  
Agriculture, University College of  
Wales, Aberystwyth, Wales
- 1886 Fariah, James, *last known address*, 463  
Mile End Road, London, E.1
- 1893 Fergusson, James, 101 Sydney Place,  
Bath
- 1869 Fergusson, Robert W., 18 University  
Mansions, Putney, London
- 1909 Fisher, George, Farnbrook, Pilling, Gar-  
stang, Lancashire—*Free Life Member*
- 1897 Fitzherbert, W., Manor Farm, Aston  
Somerville, Broadway, Glos.
- 1891 Fleet, Wilfrid J., "Inatza," Kings Road,  
Bournemouth—*Free Life Member*
- 1907 Fleming, David (Dickson, Brown, & Tait),  
57 Cross Street, Manchester
- 1864 Fleming, James, Henney, Barway, Ely,  
Cambs.
- 1914 Foden, William (Foden's Limited),  
Elworth Works, Sandbach
- 1911 Forbes, Alastair H., Leacombe House,  
Axminster, Devonshire

## Admitted

- 1911 Forbes, Thomas B., Hood Barton, Totnes,  
South Devon
- 1920 Forsyth, Andrew D., Loughoughton Low  
Steads, Ledbury, R.S.O.
- 1913 Forsyth, Joseph D., Togston East Farm,  
Acklington
- 1908 Fox-Brookbank, A. H., The Croft, Kirk-  
santon, Cumberland
- 1873 Galbraith, William W., Perth House, 15  
Warwick Place, Leamington Spa
- 1822 Garner, Henry (H. Garner, Limited),  
Moseley, Birmingham
- 1909 Garnet, Frank W., M.R.O.V.S., C.B.E.,  
Dalegarth, Windermere
- 1923 Garrett, Victor Richard, South Beach  
House, Aldeborough, Suffolk
- 1892 Gascoigne, Major R. F. T., Letherton  
Hall, Aberford, Leeds
- 1904 Gibson, Samuel, Asplina Farm, Hard-  
wick, Cambridge
- 1913 Gilbert, G. W., Rawcroft, Penrith
- 1889 Gilchrist, Professor D. A., Armstrong  
College, Newcastle-on-Tyne—*Free Life  
Member*
- 1882 Gilkes, Gilbert, Canal Iron Works,  
Kendal
- 1913 Gill, John, Thorn Farm, Stainton, Pen-  
rith
- 1871 Gillespie, Alexander, Napier House, Pit-  
ville Gate, Cheltenham
- 1912 Glahome, W. J., Little Haughton,  
Lebury
- 1873 Goddard, H. R., Hammet Street, Taun-  
ton, Somerset—*Free Life Member*
- 1920 Goudson, Captain A. L., Kilham, Min-  
drum, Northumberland
- 1893 Gordon, A. A., O.B.E., M.V.O., J.P.,  
48 Landon Road, Redhill, Surrey
- 1875 Gordon, W. R. G., Barsham Lodge, San-  
down, Isle of Wight
- 1866 Gough, William, Land Agent, Wyke-  
ham
- 1886 Gow, George, Tregothnan Office, Truro
- 1901 Gower, Cecil Laveson, Bletchingly,  
Surrey
- 1881 Graham, George, Priory Farm, Wrab-  
neas, Manningtree, Essex
- 1873 Graham, Robert G., The Nook, Irthing-  
ton, Brampton, Cumberland
- 1919 Graham, Thomas William, of Bogside,  
Irthington, Carlisle
- 1888 Graham, William, Eden Grove, Kirkby-  
thore, Penrith
- 1900 Grant, A. P. F., yr. of Druminor, New  
University Club, St James's Street,  
London, S.W. 1
- 1920 Grant, Mrs M. A., Westlands, Burstow,  
Horley, Surrey
- 1891 Greenbank, Jonathan C., Gantby, Lincoln
- 1895 Greenwood, Thomas F., M.D., B.Sc.,  
County Asylum, Radcliffe, Notting-  
ham—*Free Life Member*
- 1892 Griffen, Hugh R., *last known address*,  
1 Finsbury Square, London, E.C. 1
- 1915 Gunther, Charles E., Tongewood, Hawk-  
hurst, Kent
- 1903 Hacking, J. H., Holbeck Ghyll, near  
Windermere
- 1898 Hacking, Thomas, 10 Sunnycroft Road,  
Western Park, Leicester—*Free Life  
Member*
- 1890 Hadden, Gavin, Underway, West Por-  
lock, Somerset
- 1884 Hall, David, Kingswood, Whitfield,  
Northumberland
- 1877 Hall, T. F., *last known address*, Billiter  
Buildings, Billiter Street, London, E.C.
- 1867 Hallen, Vety, Lieut.-Col., F.R.S.E.,  
F.R.O.S.E., Peabworth Fields, Strat-  
ford-on-Avon

Admitted

- 1921 Halstead, William, M.R.C.V.S.,  
D.V.S.M. (Vict.), Murrell Hill,  
Carlisle
- 1888 Handley, John, Greenhead, Milnthorpe
- 1919 Hardcastle, Col. Henry M., J.P.,  
Bradshaw Hall, Bolton-le-Moors,  
Lancashire
- 1884 Hardy, C. W. L., 20 Richmond Park  
Road, Clifton, Bristol—*Free Life*  
*Member*
- 1893 Harrison, Edwin John (Barker & Eng-  
land, Limited), Sheffield (Owston  
Ferry, Doncaster)
- 1897 Harrison, George, The Hall, Gainford,  
Darlington
- 1895 Harrison, John, Chataworth House,  
Carlisle
- 1911 Harrison, Thomas Darwell, Leigh, Lan-  
cashire
- 1899 Harrison, William S., *last known address*,  
Agricultural College, Aspatria—*Free*  
*Life Member*
- 1897 Hart, Andrew D., Pegglesworth, An-  
doversford, Glos.
- 1921 Hart, Mrs A. D., Pegglesworth, An-  
doversford, Glos.
- 1887 Haviland, W. A., Brightling Place,  
Brightling, Sussex
- 1919 Hawkins, A. W. Bailey, Stagenhoe  
Bottom Farm, Welwyn, Hertford-  
shire
- 1922 Hay, William David, B.Sc. (Agric.),  
Somerset Farm Institute, Cannington,  
near Bridgwater
- 1908 Hayes, Charles H. (W. A. Wood, M. &  
R. M. Co.), 36 Workshop St., London,  
E.C. 2
- 1888 Hayward, C.P., Beaumont Manor, Lincoln
- 1919 Heath, Frank, Chester House, Ack-  
lington, Northumberland
- 1920 Henderson, David, Dykohead Farm,  
Blackford, Carlisle
- 1876 Henderson, John, 12A Mittoes Road,  
London, W. 8—*Free Life Member*
- 1916 Hewett, A. W., Manager (Imperial Live  
Stock Insurance Co., Ltd.), Imperial  
House, 27 Cavendish Square, London,  
W. 1
- 1896 Hewison, Robert, Edgecote, Banbury,  
Oxon—*Free Life Member*
- 1899 Hewitt, Thomas G., M.R.C.V.S., 23  
Dorset Street, Baker St., London, W. 1
- 1909 Hickey, Robert J., F.R.C.V.S., Market  
Weighton, Yorkshire
- 1873 Hill, A. J., M.R.A.C., Gorton, Torquay  
—*Free Life Member*
- 1894 Hill, Henry F., Trevalgas, Stratton,  
Cornwall—*Free Life Member*
- 1897 Hill, J. Smith, Estate Office, Grey-  
stoke, Penrith
- 1902 Hobbs, James T., Malsey Hampton,  
Fairford, Gloucestershire
- 1921 Hobson, George, 4 Southampton Row,  
London, W.C. 1
- 1921 Hodgson, James, Riddings Mount,  
Longtown, Cumberland
- 1815 Hogg, W. H., Board of Agriculture and  
Fisheries (Woodlands, Bradford-on-  
Avon, Wiltshire)
- 1873 Holliday, Jonathan, Kirkbampton, Car-  
lisle
- 1900 Hollinghurst, Henry, 41 Trinity  
Square, London, E.C. 3
- 1882 Holm, Alexander, Lawrence's Farm,  
Buckland, Betchworth, Surrey
- 1886 Hooper, C. H., South-Eastern Agricul-  
tural College, Wye, Kent—*Free Life*  
*Member*
- 1906 Hope, Cecil A., The Dial House, West  
Lavington, Wilts

Admitted

- 1878 Hope, John W., John Knight & Sons,  
Ltd., The Royal Primrose Soap  
Works, Silvertown, London, E.
- 1920 Hope, William, Long Moor, Wigton,  
Cumberland
- 1917 Horton, C. E. (George Hadfield & Co.,  
Ltd.), 18 Lightbody Street, Liverpool
- 1920 Howard, J., c/o Messrs J. & F. Howard  
Ltd., Bedford
- 1898 Howard, J. H., Britannia Iron Works,  
Bedford
- 1907 Howat, Jasper F., Oraigie, Walberton,  
Sussex
- 1910 Hughes, George, 155 Fenchurch Street,  
London, E.C. 3
- 1895 Hurley, George, Beech Cliffe Farm,  
Newcastle, Staffs.—*Free Life Member*
- 1920 Hurworth, Fred R., 30 Green Batt,  
Ainwick
- 1883 Hutchinson, Alan, *last known address*,  
30 Church Street, Durham
- 1892 Inglis, A., *last known address*, Ross-on-  
Wye, Herefordshire—*Free Life Member*
- 1888 Inman, A. H. (care of Glyn, Mills, Currie,  
& Co.), 67 Lombard Street, London,  
E.C. 3—*Free Life Member*
- 1919 Jack, Alexander Fingland, Stocksfield  
Hall, Stocksfield-on-Tyne
- 1900 Jackson, William, 12 Hawthorne Terrace,  
New Karawick, Yorks.
- 1895 Jameson, Robert, *last known address*,  
Broughton House, Herne Hill, London
- 1904 Jardine, John, 20 South Parade, Don-  
caster
- 1914 Jarmain, Thomas Martin, Haseley Iron  
Works, Wallingford, Oxon.
- 1899 Jefferson, J., Estate Office (Wellington  
Live Stock Co., Ltd.), Coolham, Ship-  
ley, Sussex
- 1893 Jones, Professor C. B., University Col-  
lege of Wales, Aberystwyth—*Free Life*  
*Member*
- 1906 Jones, William E., 37 Overstrand Man-  
sions, Battersea Park, London, S.W. 1
- 1922 Jordan, John S., Layer Breton,  
Kendal
- 1873 Jukes, R. F., *last known address*, Harley,  
Much Wenlock—*Free Life Member*
- 1906 Keegan, Charles B., West Shaftoe,  
Middleton, Morpeth
- 1921 Keighley, E. Ernest, Yorkshire Mills,  
Hull
- 1894 Keith, Alexander, 47 Quay Street,  
Halesworth, Suffolk
- 1890 Kennard, Cecil, Garrick Club, London
- 1894 Kennaway, David, The Farm, Grawling-  
ton, Northumberland
- 1875 Kennedy, W., Lewes and County Club,  
Lewes—*Free Life Member*
- 1883 Kenyon, J. W., Cecily Hill, Cirencester
- 1903 Kerr, William, Beckfoot, Rockcliffe,  
Carlisle
- 1921 Ketchison, H. C., Bank of Montreal,  
Waterloo Place, London
- 1920 Kilpatrick, James, jun., Hawkkrigg  
House, Wigton, Cumberland
- 1894 Laidlaw, Percy O., Stonecroft, Four-  
stones, R.S.O.
- 1883 Laidlay, R. W., Seacliff, Warren Road,  
Torquay
- 1915 Lambton, Oland, West Newton, Wooler,  
Northumberland
- 1881 Lang, Hugh, Mingary, Worplesdon,  
Brookwood
- 1907 Lang, James, The Home Farm, Hoixe,  
Ryne, Suffolk
- 1919 Lawley, A. E., Hilston Park, Mon-  
mouth
- 1919 Lee, T. W. (William Lee & Sons), Cobnar  
Gardens, Woodseats, Sheffield

- Admitted  
 1878 Leggat, Alexander, Mill Place Farm, East Grinstead, Sussex  
 1920 Lewin, A. William (Fairbanks, Morse, & Co., Limited), 87 Southwark Street, London, S.E. 1  
 1875 Lightfoot, H. Le Blanc, Corpus Christi College, Oxford  
 1913 Limond, Thomas, Cannington Court, Bridgewater  
 1912 Lister, Charles A., The Priory, Dursley, Glos.  
 1891 Lister, Joseph, Fern Cottage, Great Broughton, Cockermouth, Cumberland  
*—Free Life Member*  
 1914 Lomas, George A. (A. C. Bamlett Limited), Thirsk  
 1896 Long, Lord, Rood Ashton, Trowbridge  
 1874 Lothian, M. J., 17 Harley House, Regent's Park, London, N.W. 1  
 1889 Lowson, J. G. F., Quarwood, Stow-on-the-Wold, Glos.  
 1912 Ludford, Leslie B., Four Oaks, Sutton Coldfield, Birmingham  
 1888 Lyon, George, Ingatstone, Essex  
 1905 M'Alister, John, Brancote, Stafford  
 1907 MacBean, S., Draycott Cliff, Sudbury, Derby  
 1878 M'Connell, Primrose, Northwycke, Southminster, Essex—*Free Life Member*  
 1878 M'Cracken, W., Crewe—*Free Life Member*  
 1898 M'Creath, James, West Cornwall Creamery, Lelant, R.S.O., Cornwall—*Free Life Member*  
 1891 Macdonald, Charles, The Field Office, Breems Buildings, London, E.C. 4  
 1022 Macdonald, Donald, 1 Haw Street, Wotton-under-Edge, Glos.  
 1920 Macdonald, George G., Manor House, Apethorpe, Peterboro'  
 1907 Macdonald, William, Estate Office, Rock, Alnwick  
 1914 M'Dougall, A. P., Prescott Manor, Cropredy, by Baubury, Oxfordshire  
 1893 Macfie, J. W., Rowton Hall, Chester  
 1922 MacGillivray, William, Blaydon Farm, Cranborne, near Salisbury  
 1903 M'Intosh, John W., M.R.C.V.S., F.R.S.E., Dollis Hill Farm, Cricklewood, London, N.W. 2  
 1875 Mackay, Thomas, Westwood, Coventry  
 1898 Mackay, William, last known address, Greenhill Farm, Kilmerston, Bath  
 1897 Mackenzie, W. A., Estate Office, West Dean, Chichester  
 1889 Mackintosh, James, Thornbridge Hall, near Bakewell, Derbyshire  
 1918 M'Lachlan, Alexander, Merevale Home Farm, Atherstone, Warwickshire  
 1904 MacLagan, Norman, Tremayne, Berwick Road, Bournemouth  
 1922 M'Laren, H. J. (J. & H. M'Laren, Limited), Midland Engine Works, Leeds  
 1871 M'Laren, James, last known address, 64 Marchmont Street, London, W.C. 1  
 1889 M'Master, William, jun., Rockingham, Tiptree, Essex  
 1870 M'Montes, J., Coombelands, Addlestone, Surrey  
 1906 Maun, James H., Pepper Road Works, Leeds  
 1883 Maun, Robert J., Beaconsfield, Church Stretton  
 1884 Marriott, Thomas E., The Shooting Lodge, Dene Park, Tonbridge, Kent  
 1905 Marsden, H. R., Soho Foundry, Leeds  
 1904 Marshall, A. M'L., Chitcombe, Breda, Sussex  
 1890 Martin, Captain J. C., Forge Dene, Bethesda, Kent
- Admitted  
 1867† Martin, John M., 111 Elgin Crescent, London, W. 11  
 1909 Martin, William Edward, Rock House, Stamford  
 1920 Mathew, Ernest, Little Shardeloes, Amersham  
 1922 Maughan, John, Estate Office, Jervaulx Abbey, Middleham  
 1910 Maxwell, Maxwell H., 63 South John Street, Liverpool  
 1894 Melkalejohn, D. W., Wyndyard Park, Stockton-on-Tees  
 1891 Menzies, Robert, Merton, Thetford  
 1889 MIDDLETON, Sir T. H., C.B., M.A., Development Commission, 6A Dean's Yard, Westminster, S.W. 1—*Free Life Member*  
 1920 Miller, Lieut.-Col. Alfred Tennant, The Manse, Great Somerford, Chippingham, Wilts.  
 1899 Miller, John, Morton Grange, Retford, Nottinghamshire  
 1909 Miller, Robert, Papworth St Agnes, Cambridge  
 1919 Miller, W. C., Assington House, Assington, near Colchester  
 1920 Milligan, Alex., last known address, Manager (Agricultural Department), British Motor Trading Corporation, 50 Pall Mall, London, S.W. 1  
 1901 Miln, George P. (Gartons, Limited), Abbot's Lodge, Chester  
 1919 Miln, F. Edward, Wyl-syl-dene, Latchford Without, Warrington  
 1900 Mirlees, Arthur, last known address, Checquer House, Ranby, Retford  
 1911 Mitchell, David, Hayton Castle, Bullgill, Carlisle  
 1921 Mitchell, E. (Messrs Richmond & Chandler, Ltd.), Globe Works, Manchester  
 1876 Mitchell, John, last known address, 6 Clarendon Square, Leamington Spa  
 1920 Moffat William, Wark Common, Cornhill-on-Tweed  
 1888 Mollison, James, C.S.I., M.R.A.C., Ascotts Felbridge, East Grinstead  
 1921 Monkhouse, Octavius, Cowshill, Wearhead, County Durham  
 1908 Montgomery, Hugh, 8 Fenwick Street, Liverpool  
 1921 More, James A., N.D.A., N.D.D., Midland Agricultural and Dairy College, Sutton Bonington, Loughborough  
 1920 Morrison, Allan, Rocheberie, Glossop Road, Sheffield  
 1907 Morton, John, Ivy Tree, Buxhall, Stowmarket, Suffolk  
 1888 Muir, James, last known address, Rubers Law, West-by-Fleet, Surrey—*Free Life Member*  
 1886 Munro, J. C., last known address, The Coppice, Syston, Leicester  
 1888 Murdoch, James, Cardington, Bedford  
 1881 Murray, Captain A. B., last known address, 61 Nevcrn Square, London  
 1922 Murray, Douglas D., The Dene, Seaham Harbour  
 1919 Murray, John C., Tarsct Hall, Bellingham, Northumberland  
 1914 Murray, J. Herbert, Stocksfield Hall, Stocksfield-on-Tyne  
 1905 Murray, Joshua, Tarscthall, Tarsct, Northumberland  
 1884 Murray, W. J., last known address, Belbroughton, Stourbridge  
 1921 Neale, Arthur, Managing Director, International Harvester Co. of Great Britain, Ltd., 80 Finsbury Pavement, London, E.C. 2

Admitted

- 1914 Nellson, Lieut.-Colonel W. Gordon, C.M.G., D.S.O., Cobtree Manor, Maidstone, Kent
- 1871 Nelson, Charles, 15 St James Road, London, S.W. 17
- 1899 Newton, Thomas, The Bent, Warburton, Warrington—*Free Life Member*
- 1900 Nicholson, Colonel Edward Henry, 4th Notts V.B. Sherwood Foresters, Newark-on-Trent
- 1898 Nicholson, W. L., Alnick Grange, Hexham
- 1882 Nickels, John Tetley, The Day House, Shrewsbury
- 1898 Nisbet, Robert, Lower Haddon, Bampton, Oxon
- 1901 Nixon, W., The University, Bristol
- 1892 Noel, Ernest, Hingham Hall, Attleboro', Norfolk
- 1879 North, G. F., Strathfieldsaye, Mortimer, R.S.O., Berks
- 1874 Ogilvy, John F., *last known address*, 18 Collingham Gardens, London, S.W. 5
- 1910 Oldfield, Wilfrid (Day & Sons, Ltd.), The Brae, Westaston, Crewe
- 1921 Oliphant, John Thomas, Grindesdale, Carlisle
- 1887 Orde, Collin R. Campbell, Fullbrook Farm, Elstead, Godalming, Surrey
- 1900 Orr, George W., Hilston Park, Monmouth
- 1909 Page, Andrew R., Mells Estate Office, Frome, Somerset
- 1903 Page, Herbert, Hertford
- 1915 Paget, Leopold C., Middlethorpe Hall, York
- 1894 Parkin-Moore, William, Whitehall, Mealsgate, Carlisle
- 1922 Paton, George William, Managing Director, Bryant & May, Ltd., Fairfield Works, Bow, London, E. 3
- 1900 Patten, John, jun., Hulne Park, Alnwick—*Free Life Member*
- 1922 Pearson, Mrs Andrew, House of Barns, Chobham, Surrey
- 1901 Peat, Alexander, Stainbourne Hall, Castle Hedingham, Essex
- 1897 Peet, John O., B.Sc., Ashbourne House, Spring Hill, Lincoln—*Free Life Member*
- 1888 Perkins, W. F., M.R.A.C., Boldre Bridge House, nr. Lynnington—*Free Life Member*
- 1905 Peter, James, Berkeley Castle Estate Office, Berkeley
- 1905 Peter, James A., Brown's Mill Farm, Berkeley
- 1893 Peter, John Stewart, Great Strode, Netherbury, Dorset
- 1919 Petter, E. W. (Pettars, Ltd.), 73 Queen Victoria Street, London
- 1920 Phillips, W. H. (Messrs L. R. Knapp & Co., Ltd.), Clansfield, Oxon
- 1889 Pilkington, Claude M., Wollaton, Nottingham
- 1884 Pitcairn, D. D., 30 Tremaine Road, Anerley, London, S.E. 20
- 1918 Poad, Jeff. R., Thornton House, Tuford, York
- 1919 Pochin, R. Frank (Messrs Goodwin, Baresby, & Co.), St Margaret's Iron Works, Leicester
- 1885 Pollock, Thomas, *last known address*, Manor House, Nettlebed, Henley-on-Thames
- 1923 Pope, Alfred, Swinsty Hall, Fewston, Harrogate
- 1904 Pople, W. G., Ringers Farm, Terling, Witham, Essex
- 1905 Porter, John, B.Sc., Education Sub-Office, Kingsbury Square, Aylesbury

Admitted

- 1898 Powell, J. E., Cambrian Iron Works, Wrexham
- 1895 Price, W. M., Wreay Hall, Carlisle
- 1897 Profeit, George W., B.Sc. (Edin.), and of Lincoln's Inn, Barrister-at-Law, Estate Office, Charborough Park, Wareham, Dorset
- 1920 Prosser, John (Chairman, Molassine Co., Ltd.), Greenwich
- 1870 Ralston, A. R., c/o Robert Clark, Esq., Roy-d-wood, Kirkburton, Huddersfield
- 1891 RAMSAY, Hon. Charles Maule, Carlton Club, Pall Mall, London, S.W. 1
- 1886 Rannie, D. W., West Hayes, Winchester
- 1907 Ransome, Edward C., Orwell Works, Ipswich
- 1870 Rawlins, John D., 44 Aughton Road, Birkdale, Southport
- 1887 Readman, J. B., D.Sc., Frankleigh House, Bradford-on-Avon, Wilts
- 1906 Reed, T. Curwen, *last known address*, Hyde Farm, Stroud, Glos.
- 1882 Rennie, James, Bowesfield Farm, Stockton-on-Tees
- 1920 Rennie, John, Bowesfield Farm, Stockton-on-Tees, Durham
- 1874 Richardson, George W., *last known address*, Landour, The Shrubbery, Weston-super-Mare
- 1878 Richardson, R. A., 128 Shiel Road, Newsham Park, Liverpool
- 1922 Rippe, Albert, 2 St Nicholas Buildings, Newcastle-on-Tyne
- 1922 Robb, R. Lindsay, C.D.A., N.D.A., Principal, Newton Rigg Farm School, Penrith
- 1912 Roberts, H. E., Mereside, Bramfield, Carlisle
- 1886 Robertson, Charles T. A., Leaton Grange, Wellington, Salop—*Free Life Member*, 1888
- 1864 Robertson, D. G., *last known address*, Homewood, 8 West Terrace, Eastbourne
- 1900 Robertson, John, Inspector, *last known address*, Ministry of Agriculture and Fisheries, 4 Whitehall Place, London, S.W. 1
- 1895 Robertson, John, Estate Office, Lavington Park, Pepworth, Sussex
- 1920 Robertson, T. Ainslie (Messrs Alexander Robertson & Sons, Ltd., Argyle Chemical Works, Oban), Baguley Cottage, Baguley, Cheshire
- 1874 Robertson, William, *last known address*, Heretanner Club, Hastings
- 1900 Robinson, J. F., 17 Victoria Street, Westminster, London, S.W. 1
- 1878 Robinson, Thomas, Cargo, Carlisle
- 1919 Robson, Geoffrey, Newton, Bellingham, Northumberland
- 1884 Robson, Jacob, Cold Town, West Woodburn, Northumberland
- 1919 Robson, Lancelot, Bradford House, Belford, Northumberland
- 1916 Rogers, L. C., 52 Newgate Street, London, E.C. 1
- 1908 Rootham, Fred. F., Crossways House, Bartlow, Cambridge
- 1910 Ross, Walter A., 24 Rope-maker Street, London, E.C. 3
- 1892 ROSSLYN, Earl of, Carlton Club, London S.W.
- 1902 Runciman, Frank S., Brickhouse Farm, Curton, Rochester, Kent
- 1920 Rush, William, Riddings Farm, Longtown, Cumberland
- 1900 Rushton, John C., County Education Offices, Stafford—*Free Life Member*
- 1883 Russell, James, Halstead Place, Sevenoaks

## Admitted)

- 1897 Sallerthwaite, Ben. H., Castle Park, Lancaster  
 1920 Samson, Richard, 80 Lothian Road, Middlesboro'  
 1922 Sanderson, F. H., Eshott Home Farm, Felton, Northumberland  
 1922 Sanderson, Mrs F. H., Eshott Home Farm, Felton, Northumberland  
 1906 Saunders, Charles, Balmaine, Newland Park, Hull  
 1919 Sanderson, Herbert Percy, Elstow Engineering Works, Bedford  
 1920 Schellings, J., Calder Mount, Garstang, Lancs  
 1909 Schofield, T. B., Exning Lawn, Cheltenham  
 1906 Scholes, Councillor Walter, J.P., The Raynors, Ashton-under-Lyne  
 1889 Scott, Alexander, Whinfell Park, Penrith  
 1922 Scott, Charles Thomas, Buckland Manor, Broadway, Worcestershire  
 1918 Scott, Charles W. M. D. Shifnel, Weston Bank, Shropshire  
 1906 Scott, Thomas, Beufre, Beaulieu, Hants  
 1882 Scott-Makdougall, H. I. E., 3 Sloan Avenue, London  
 1919 Segar, John (Messrs Ruston & Hornsby, Ltd.), Grantham, Lincolnshire  
 1890 Sessions, Harold, *last known address*, Lawn Lodge, Dawlish—*Free Life Member*  
 1894 Seton, Robert S., The University, Leeds—*Free Life Member*  
 1893 Shaw, Philip A., Red Dyke, Pevensey, Sussex  
 1915 Shepherd, Joseph, Union Bank Buildings, 1 Hutton Garden, London, E.C.  
 1882 Shirlaw, James, 1 Cliffe Terrace, Darlington  
 1898 Shuttleworth, Alfred (Clayton & Shuttleworth), Lincoln  
 1919 Silcock, T. B. (Messrs R. Silcock & Sons, Ltd.), Stanley Hall, Union Street, Liverpool  
 1908 Simpson, Charles, 7 Lamb's Passage, Chiswell Street, London, S.E. 1  
 1921 Simpson, Dundas, Tuesley Court, Godalming, Surrey  
 1873 SINCLAIR, Lord, 55 Onslow Square, London, S.W. 7  
 1922 Slack, Isaac, Newbay Demesne, Wetheral, Carlisle  
 1885 Slater, Andrew, 7 Park Terrace, Darlington  
 1895 Smith, David Lister, Birdforth School, Easingwold, Yorks—*Free Life Member*  
 1900 Smith, Fred., 115 Brook Street, Macclesfield—*Free Life Member*  
 1911 Smith, Fred J., Summerfield, Kirby Lonsdale  
 1920 Smith, George, 6 New Court, Trinity College, Cambridge  
 1872 Smith, G. Purves, M.D., *last known address*, The Hollen, Winscombe, Somerset  
 1872 Smith, James F., Wooler Cottage, Easingwold, Easingwold, Yorks  
 1912 Smith, Dr Trevor A. H., Trafalgar House, Wadsley Bridge, Sheffield  
 1892 Solomon, F. O., Wimborne, Lansdown Road, Sidcup, Kent—*Free Life Member*  
 1881 Somerville, William, M.A., D.Sc., D.Ce., 121 Banbury Road, Oxford—*Free Life Member*, 1887  
 1920 Soutar, J. J. M., M.R.C.V.S., Captain R.A.V.C., c/o Messrs Holt & Co., 3 Whitehall Place, London  
 1887 Stanhope, John Montague Spencer, Cannon Hall, Barnsley, Yorkshire

## Admitted

- 1869 Statter, T., *last known address*, Stand Hall, Manchester  
 1920 Staward, Richard, Kimmerston, Wooler, Northumberland  
 1885 Steel, Alexander, Southend, Essex  
 1898 Steel, John, Hampton Barns, Rochford, Essex  
 1922 Steel, John, M.R.C.V.S., Southley, Wigton, Cumberland  
 1887 Steele, Daniel, The Parsonage Farm, Stansted, Essex—*Free Life Member*  
 1902 Stephen, Edward F., 13 Portadown Avenue, Gordon's Green, London, N.W.  
 1906 Stewart, James G., M.A., B.Sc., Board of Agriculture and Fisheries, Whitehall, London, S.W. 1  
 1906 Stewart, J. King, Secretary, The Fertilisers Manufacturers Association, 68 Fenchurch Street, London, E.C. 3  
 1914 Stewart, Kenneth Lindsay, 1A Queensberry Place, Cromwell Road, London, S.W. 7  
 1877 Stirling, A., *last known address*, 80 Eccleston Street, London, S.W.  
 1922 Stockley, Richard M., Coombe Park, Whitchurch, Oxon  
 1893 STOCKMAN, Sir Stewart, M.R.C.V.S., Ministry of Agriculture and Fisheries, 4 Whitehall Place, London, S.W. 1  
 1884 Stordy, Norman, Thurstonfield Tannery, Carlisle  
 1905 Storrar, Richard, Holburn Grange, Belford, Northumberland  
 1919 Straker, Mrs J. O., The Leazes, Hexham, Northumberland  
 1922 Stratfield, Captain Sydney Richard, Hill House, Haydon Bridge, Northumberland  
 1921 Strickland, J. M., Bainesse, Catterick, Yorks  
 1922 Summerfield, Thomas A., Buckton, Belford, Northumberland  
 1922 Summerfield, Mrs, Buckton, Belford, Northumberland  
 1895 Sutton, Alfred, Bridekirk, Cocker-mouth  
 1914 Sutton, E. F. F., The Royal Seed Establishment, Reading  
 1865 Swanwick, R., R.A.C. Farm, Cirencester  
 1921 Tailby, Norman (Stonehouse Works Company), Houghton Street, West Bromwich  
 1894 Taylor, James W., 19 Antrim Street, Tuebrook, Liverpool  
 1918 Thackray, Edgar Jones (Messrs Massey-Harris Ltd.), 41 Broadway, Peterborough  
 1895 Thomas, Gwyn R., *last known address*, 8 Sandwell Crescent, West Hampstead, London, N.W. 6—*Free Life Member*  
 1891 Thomson, Duncan, 15 Norton Road, Hove, Sussex  
 1925 Thompson, Frank W. E. (The Wolseley Sheep Shearing Machine Co., Ltd.), Alma Street, Birmingham  
 1920 Thorley, Joseph (Joseph Thorley, Ltd.), King's Cross, London, N. 1  
 1894 Tipper, Charles J. R., 6 Beechwood, The Green, Kendal—*Free Life Member*  
 1897 Tod, James A., Thirley Farm, Hackness, Scalby, R.S.O.  
 1921 Todd, John, Wold House, Huggate, York  
 1912 Tonka, A. G., 4 Iddeleigh House, Caxton Street, Westminster, London, S.W. 1  
 1912 Torrance, George, Southwood, Bosham, Sussex

Admitted

- 1923 Tottle, Lieut.-Col. James Braithwaite Garforth, of Coniston Cold, Bell Busk, Yorks
- 1896 Townshend, Joseph H., Fillongley, nr. Coventry—*Free Life Member*
- 1920 Turner, Col. F. W., M.I.Mec.E., c/o Messrs E. R. & F. Turner, Ltd., Ipswich
- 1889 Turner, Thomas Warner, Welbeck, Worksop, Notts
- 1908 Unite, Sydney George, 291 Edgware Road, London, W. 2
- 1920 Utley, Thomas, jun., Lyndhurst, Knocklaid Road, Club Moor, Liverpool
- 1893 Veitch, W. H., Lullington, Wimborne, Dorset
- 1922 Waide, Walter (Waide & Son, Limited), Crown Point Road, Leeds
- 1897 Wakerley, Frederick, 64 London Road, Grantham—*Free Life Member*
- 1900 Wale, Bernard N., Rectory Farm, Bourton-on-the-Water, Moreton-in-Marsh, Glos.—*Free Life Member*
- 1896 Walker, Frank P., Education Department, Shire Hall, Durham
- 1889 Walker, Thomas G., Symonds Hyde, Hatfield, Herts
- 1882 Wallace, George, 28 Albert Palace Mansions, Battersea Park, London, S.W. 11
- 1882 Wallace, R. Hedger, 4 East Grove, Cardiff
- 1899 Wallace, William, 5 Broadlands Road, Highgate, London, N. 6
- 1902 Wallace, William B., Cuddington Court, Cheam, Surrey
- 1920 Walsh, Harry (of Walsh & Clark, Ltd.), Transbeck, The Birks, Guisely, Leeds
- 1898 Walters, Sir J. Tudor (Mills & Co.), Leicester
- 1894 Ward, Martin H., New Farm, Horton Asylum, Epsom, Surrey—*Free Life Member*
- 1896 Waters, Arthur, Coopersale, Epping, Essex
- 1890 Waters, J. C. Dun, Plaish Hall, Church Stretton, Salop
- 1896 Waterson, D. M., Lupton, Churston, S. Devon
- 1910 Watson, George, Clydesdale House, 174 Warwick Road, Carlisle
- 1888 Watson, H. A., North-Eastern Railway Office, York—*Free Life Member*
- 1886 Watson, Captain W. S., 8 The Esplanade, Plymouth
- 1868 Watt, James (Little & Ballantyne), Knowesfield, Carlisle
- 1920 Watts, Arnold T., Framlington House, Framlington Place, Newcastle-on-Tyne
- 1930 Webb, W. Harcourt (Major), Spring Grove, Bewdley, Worcestershire
- 1881 Weber, F. H., Hawthornden, Mumbles, Swansea—*Free Life Member*
- 1897 Webster, Herbert, 1 Granby Terrace, Harrogate
- 1922 Weighman, Albert, Middle Herrington, Sunderland
- 1920 Weir, William, M.A., B.Sc., Ministry of Agriculture and Fisheries (Education Branch), 4 Whitehall Place, London, S.W. 1
- 1923 Whittam, Ernest William (William Foster & Co., Ltd.), Lincoln

Admitted

- 1912 White, Professor R. G., Department of Agriculture, University College of North Wales, Bangor, North Wales
- 1891 White, W. E. C., Chatwood, Wokefield Green, Mortimer, Berks—*Free Life Member*
- 1906 Whitelaw, Graeme A., Brockham Park, Betchwood, Surrey
- 1894 Whittaker, John D., Oxford and Cambridge Club, Pall Mall, London, S.W. 1—*Free Life Member*
- 1899 Whyte, Major John D. B., Pittenzie, Fleet, Hants
- 1900 Wigram, Oswald L., Nord Vue, Armathwaite, Cumberland
- 1898 Williams, David D., University College of Wales, Aberystwyth—*Free Life Member*
- 1923 Williamson, Arthur Bell, Home Farms, Brancepeth, Durham
- 1914 Wilmot, Samuel M., St Phillips, Bristol
- 1914 Wilson, Lieut.-Col. J. T. R., D.S.O., 22 Birchhurst Road, South Croydon, Surrey
- 1911 Wilson, R. M., B.Sc., East Anglian Institute of Agriculture, Chelmsford, Essex
- 1900 Wilson, Robert, 30 Cambridge Street, Newcastle-on-Tyne
- 1896 Wilson, R. Riddell, 21 Ironmonger Lane, Cheapside, London, E.C. 2
- 1892 Wilson, William, Goodyhill, Maryport—*Free Life Member*
- 1858 Wilson, William, last known address, Borough, Sanderstead, Croydon, Surrey
- 1896 Wilton, James P., Hoard's Park Farm, Bridgnorth, Salop—*Free Life Member*
- 1919 Winter, Ramsay, Good Hope, Streetly, Sutton Coldfield
- 1919 Winterbottom, G. H., jun., Horton House, Northampton
- 1920 Wintour, William R., Managing Director, South Lincolnshire Agricultural Engineering Co., Ltd., Spalding
- 1901 Wood, Charles, The Poplars, Hepworth, Diss, Suffolk
- 1930 Wood, John R., Castle Heaton, Cornhill-on-Tweed
- 1920 Woodmass, William, Howard House Farm, Gilsland, Cumberland
- 1881 Woodroffe, D., last known address, Chase View, Rugeley
- 1921 Woodward, Fred J., 101 Grosvenor Road, London, S.W. 1
- 1882 Wright, Sir R. Patrick, Wenalt, Crosswood, Cardiganshire—*Free Life Member*
- 1897 Wylie, Alexander, last known address, Cravens, Wemington, Lancs.
- 1898 Wylie, Thomas, Ashwell, nr. Baldock, Herts.
- 1896 Young, David, Westover Farm, Clatford, Andover, Hants.
- 1915 Young, James W., Estate Office, Bishop Burton, Beverley, Yorks.
- 1919 Young, J. H. (William Lee & Sons), 86 Havelock Street, Sheffield
- 1879 Young, R. W., Billeswell Manor, Litterworth
- 1893 Young, William, Lowthian Gill, Cotehill, Cumberland
- 1876 Young, W. S., North Lodge, Armathwaite Hall, Cockermonth
- 1877 ZETLAND, Marquis of, K.T., Aake, Richmond, Yorkshire

NUMBER OF MEMBERS, 582.

## IRELAND.

## Admitted

- 1910 Barton, Henry Dupre Malkin, The Bush, Antrim  
 1882 Beresford, J. G. M., St Huberts, Bel-  
 turbet  
 1908 Brownlee, John, The Grange, Monas-  
 terevan, Co. Kildare  
 1901 Burns - Lindow, Mark, Norefields,  
 Abbeyleix, Queen's County  
 1878 Campbell, George, Dollardstown House,  
 Athy, Co. Kildare — *Free Life*  
*Member*  
 1892 Campbell, J. R., Department of Agri-  
 culture, Dublin—*Free Life Member*  
 1919 Cavendish-Clarke, Major Fitzroy, The  
 Steeple, Antrim  
 1928 Drennan, John C., Carso Hall, Lima-  
 vady, County Derry  
 1923 Duff, Andrew, c/o Colonel J. G. V.  
 Hart, D.L., Kilderry, near London-  
 derry  
 1877 Fennessy, Thomas, Ennisnag, Stoney-  
 ford, Co. Kilkenny  
 1891 Forbes, A. C., Avondale Forestry  
 Station, Rathdrum, Co. Wick-  
 low  
 1876 Gilchrist, Andrew, Grovedale, Golden  
 Ball, Co. Dublin

## Admitted

- 1884 Goulding, Sir W. J., "Millicent,  
 Sallins, Co. Kildare  
 1899 Hinchcliff, Joseph H., Department of  
 Agriculture, Upper Merrion Street,  
 Dublin—*Free Life Member*  
 1876 Maconchy, J. A., Kildare Street Club,  
 Dublin—*Free Life Member*  
 1920 M'Robert, James, Rademon, Crossgar,  
 Co. Down  
 1920 M'Robert, John, Rademon, Crossgar,  
 Co. Down  
 1922 Pilkington, A. J., Parkmore, Antrim  
 1900 Pimlott, James, Department of Agri-  
 culture, &c., 4 Upper Merrion Street,  
 Dublin—*Free Life Member*  
 1906 Raffan, James, Kilfrush, Knocklong, Co.  
 Limerick  
 1896 Robertson, Andrew R., Department of  
 Agriculture, Upper Merrion Street,  
 Dublin—*Free Life Member*  
 1902 Simpson, David S., Department of Agri-  
 culture, Skene House, Ballyglass, Co.  
 Mayo  
 1898 Wade, Thomas, Straffan Station—*Free*  
*Life Member*  
 1892 Wilson, James, jun., Royal College of  
 Science, Dublin—*Free Life Member*

NUMBER OF MEMBERS, 24.

## THE COLONIES.

- 1882 Ainslie, John, Ainslie's Ranch, Prince  
 Albert, Saskatchewan, Canada  
 1893 Anderson, George H., 529 Spence Street,  
 Winnipeg  
 1887 Banerjee, N. N., Calcutta—*Free Life*  
*Member*  
 1922 Barker, Frank, C.D.A., Namiwawa  
 Government Expt. Farm, Zomba,  
 Nyasaland, British Central Africa  
 1883 Basu, G. C., Bangabasi College, Calcutta  
 —*Free Life Member*  
 1876 Bean, William, Rosebank, Winnipeg,  
 Manitoba  
 1881 Blyth, A. H., Frankfield, Manitoba  
 1851 Bogle, John, Auckland, New Zealand  
 1881 Brock, H., M.E.C.V.S., c/o Post Office,  
 Wynyard, Saskatchewan, Canada  
 1899 Brown, Ernest C., 488 Young Street,  
 Winnipeg, Canada—*Free Life Member*  
 1902 Brown, John, Warton Farm, Archer  
 Siding, Rockhampton, Queensland,  
 Australia  
 1864 Brydon, James, Pleasant Point, Timaru,  
 New Zealand  
 1864 Brydon, Herbert, Gladstone, Manitoba,  
 Canada  
 1879 Brydome, W. S., Freeland, Palmerston  
 South, New Zealand

- 1874 Burn, Forbes, Veterinary College, Bruns-  
 wick Street, Fitzroy, Melbourne—*Free*  
*Life Member*  
 1879 Cantile, Charles A., last known address,  
 Natal  
 1901 Carlyle-Bell, A., The British Colony,  
 Battleford, Canada  
 1899 Chiene, Hall C., C.A., London Build-  
 ings, Vancouver, British Colum-  
 bia  
 1902 Chirnside, George Thomas, Moorool-  
 bark Park, Lillydale, Victoria,  
 Australia  
 1899 Cole, James T., Box 12, Post Office,  
 Ulverstone, Tasmania  
 1897 Craig, James, Dalveen, Rakwana, Ceylon  
 1872 Currie, James J., Blinkbonny, Birtle,  
 Manitoba  
 1881 Currer, Peter, Banchoy Farm, Elstow,  
 Saskatchewan  
 1894 De la Mothe, Joseph T., Grand Bacolet  
 Estate, St David's, Grenada, West  
 Indies—*Free Life Member*  
 1911 Dickson, R. H. Bruce, Hoboken, Um-  
 tall, South Rhodesia  
 1888 Driesberg, Christopher, Agricultural De-  
 partment, Colombo, Ceylon—*Free Life*  
*Member*

## Admitted

- 1922 Drysdale, Alexander (Box No. 1022, Johannesburg), 5 St Andrew Square, Edinburgh
- 1894 Duff, J. K. Mackenzie, *last known address*, South Africa
- 1898 Dunn, William, Tobacco Creek, Miami, Manitoba, Canada
- 1901 Edgar, John Ingram, District Veterinary Surgeon, c/o Resident Magistrate, Pietersburg, Transvaal, S.A.
- 1894 Fielding, J. B., Halifax, Nova Scotia, Canada
- 1895 Forrest, James, Honolulu Plantation Co., Aiea, Oahu, H.T.
- 1896 Forrest, T. L., Cowichan Station, British Columbia
- 1904 Fowle, Patrick, N.D.A., N.D.D., College of Agriculture, Eisenburgh, Mulder's Vlei, Cape Colony
- 1913 Frost, George H., Assistant Controller, Government Farms, 1st Circle, Rawrie Pindi, Panjab, India
- 1920 Gardiner, Lieut. D., 82nd Brigade, Supply Section, Agra, India
- 1870 Gordon, R. W., British Columbia (c/o John Gibson, Howford, Peebles)
- 1899 Gowans, Major J., P.O. Box 99, Cleveland, Transvaal
- 1897 Guthrie, Captain P. H., Comox, Vancouver Island, B.C., Canada—*Free Life Member*
- 1898 Gwillin, Robert, Duval, Saskn., Canada—*Free Life Member*
- 1900 Hamilton, James T., Danbury Post Office, Saskatchewan, Canada
- 1909 Hogg, James, Anduramba, *vid* Crow's Nest, Queensland
- 1897 Holm, Alexander, jun., Director of Agriculture, Nairobi, British East Africa
- 1875 Houstoun, George L., of Johnstone Castle, Kyroura, Cyprus
- 1897 Howie, James L., Cairndhu Estate, Odzie, So. Rhodesia, S.A.
- 1893 Husbard, Thomas R., Shakespeare Road, Wanganni, N.Z.
- 1899 Hutcheson, William, R.R. No. 2, Woodstock, Ontario, Canada
- 1873 Irvine, G. F., *last known address*, New South Wales
- 1902 Jack, J. Noble, c/o The Smartt Syndicate, Ltd., Erceldoune, Britstown, Cape Province, S.A.
- 1900 Jardine, Warburton C., Wardour Estate, Caura, Trinidad, B.W.I.—*Free Life Member*
- 1919 Johnston, Robert Fender, Minitonas, Manitoba, Canada
- 1899 Jones, A. W., Minesfield, Stannecreek, British Honduras
- 1893 Knight, John, Mayfield Park, Birkenhead, Auckland, New Zealand
- 1893 Little, James, Tanestna, Whakatam, Auckland, New Zealand
- 1900 Lloyd-Williams, W. R., Department of Agriculture, H.M. Customs Buildings, Wellington, New Zealand—*Free Life Member*
- 1876 Logan, J. W., M.I.Mech.E., Representative, P.O. Box 2037, Marshall's Buildings, Johannesburg, S.A.
- 1885 Lowrie, William, Prof. of Agriculture, *last known address*, Roseworthy, South Australia—*Free Life Member*
- 1885 Macdonald, A. C., Director of Agriculture, Nairobi, British East Africa—*Free Life Member*
- 1920 MacDonald, Ronald, Zomba, Nyasaland, Africa

## Admitted

- 1891 M'Dougal, Jas., Bonnyrigg, St Andrews, New Zealand
- 1871 M'Dougall, J. W., *last known address*, Peninsular Cottage, Atherley Junction F. O., Ontario, Canada
- 1895 M'Farlane, Robert, Minburn Post Office, Alberta, Canada
- 1910 Mackenzie, Alexander, M.R.C.V.S., c/o Department of Agriculture, Wellington, New Zealand
- 1903 Mackie, A. Kirk, Brandon, Manitoba
- 1896 Marjoribanks, Hon. Coutts, Lovely Bay, Vernon, British Columbia
- 1919 Marshall, Robert, Birch Hill, Runciman, Tuhimata, New Zealand
- 1880 Martin, William, 125 Wellington Crescent, Winnipeg—*Free Life Member*
- 1897 Mason, William G., Manager, Lobatsi Farms, Lobatsi, Bechuanaland Protectorate, South Africa—*Free Life Member*
- 1873 Miller, Colin W., Lufness, Mirani, *vid* Mackay, Queensland
- 1886 Moos, N. A. F., Director, Government Observatory, Bombay—*Free Life Member*
- 1905 Morrison, John, Darwell, Alberta, Canada
- 1886 Mukerji, N. G., Professor of Agriculture, Sibpur, Bengal
- 1878 Mundell, Walter, Tourisfield, Brandon, Manitoba
- 1888 Mutter, Major J. M., Somenos Ranch, Somenos, E. and N. Reg., Victoria, B.C., Canada
- 1880 Nisbet, George, Toronto, Canada
- 1898 Nobbs, Eric A. (Ph.D., Giessen), Department of Agriculture, Salisbury, Rhodesia—*Free Life Member*
- 1877 Paterson, John, 3126 Harriet Road, Victoria, B.C., Canada
- 1894 Paterson, John W., B.Sc., Ph.D., Professor of Agriculture, University of Western Australia, Perth, W.A.
- 1899 Potts, Professor George, Grey University College, Bloemfontein, South Africa—*Free Life Member*
- 1875 Pringle, A. T., Oaklea, Plumpton, *vid* Rooty Hill, N.S.W., Australia
- 1877 Pudney, Robert L., 16 Wallace Street, Herne Bay, Auckland—*Free Life Member*
- 1901 Rabagliati, Duncan S., Fidra, Zeitoun Egypt—*Free Life Member*
- 1898 Rackham, Stanley, Lloydminster, Sack, N.W.T., Canada—*Free Life Member*
- 1908 Reid, Alexander, Knappdale, Gove, New Zealand
- 1919 Reis, Mrs Gordon, Batu Kawan Estate, Briket, Tambun, Province Wellesley, Straits Settlement
- 1898 Roberts, Harry L., Grimsby, nr. Hamilton, Ontario
- 1903 Robertson, W. Brown, jun., Kashao, Banket Junction, S. Rhodesia
- 1909 Rutherford, Dr J. G., C.M.G., Commissioner, Board of Railway Commissioners for Canada, Ottawa, Ontario
- 1899 Sampson, Hugh C., Trichinopoly, S. India—*Free Life Member*
- 1881 Sandison, Mark, Berg Vleit, Gourton, Natal, S.A.—*Free Life Member*
- 1875 Scobie, N. F. Feorlig, Fort Macleod, N.W.T., Canada
- 1880 Scott, Charles, South Africa, c/o John Scott, 30 Ludgate, Alloo
- 1892 Schenk, Louis C., Santa Rosa, Arima, Trinidad—*Free Life Member*
- 1890 Shaw, Alex., Plume Rand, Woolchester, Alta., Canada



## Admitted

- 1883 Shennan, J. K., Farningham, Hidcote Station, Natal  
 1888 Shepherd, John, Desbarats, Algoma, Canada  
 1898 Sim, James, Districts Forest Officer, King William's Town, South Africa—*Free Life Member*  
 1895 Smith, A. Rae, Farm Manager, Lovedale, Cape Colony  
 1909 Smith, Herbert, Box 72, Courtenay, British Columbia, Canada  
 1907 Smith, William, jun., Dairy Expert, Quartermaster-General's Department, Simla, India

## Admitted

- 1894 Tait, John, Eskindale Post Office, Salcoats, Sask., Canada  
 1898 Wallace, John William, W.S., State School, Wickiepin, Western Australia  
 1900 Watt, James W., Sintaluta, Sask., Canada  
 1900 Watt, John A., Sintaluta, Sask., Canada  
 1890 White, Alexander, Wonderboom, Pretoria, South Africa  
 1903 Wilkinson, H. Bevis, Bukit Tabil, Palatting, Selangor, F.M.S.  
 1879 Wilson, John, jun., Gilbrea, Oakville, Co. Halton, Ontario—*Free Life Member*  
 1858 Wotherspoon, Archibald, West Oxford, Canterbury, New Zealand

NUMBER OF MEMBERS, 108.

## FOREIGN COUNTRIES.

- 1880 Aalvik, E. A., Ostense, Hardanger, Norway  
 1882 Alexander, A. S., M.D.C., V.S., Professor of Veterinary Science, University of Wisconsin, Madison, Wis., U.S.A.—*Free Life Member*  
 1881 Auld, R. C., The Scottish American, 190 William Street (P.O. Box 995), New York  
 1868 Baird, Arthur E., Brussels  
 1871 Bruce, George C., Staunton, Virginia, U.S.A.  
 1919 Chandler, Howard, of Chariton, Iowa, U.S.A.  
 1875 Crerar, Donald, Estancia San Alonzo, Estaciones Bivio, F.C. Ensenada, Buenos Ayres  
 1874 Cruickshank, George, *last known address*, 243 Warsaw Avenue, Chicago  
 1876 Cruickshank, J. W., 32 Via del Gita Canina, Florence, Italy  
 1902 Cunningham, Henry, Florence, Mississippi, U.S.A.  
 1880 Dundas, T. G., 39 North State Street, Chicago  
 1900 Elliot, Andrew Stirling, "El Arbolito," La Magdalena, Estacion Barreto, F.C.P. Provincial Cardoba, Argentina  
 1876 Fleming, D. G., Hacienda de San' Isidro, Villa Coronado, Jiminez, Chihuahua, Mexico

- 1898 Fraser, Samuel, Genesee, Livingston County, New York—*Free Life Member*  
 1855 French, J., Sortikjär, Kvissel, Denmark  
 1871 Heggie, Henry, Roseburg, Douglas Co., Oregon, U.S.A.  
 1909 Holmberg, Algot, Norrköping, Sweden  
 1903 Kennedy, Daniel (late Kelso), America  
 1907 Little, Jack, Sonna Grove, Portgrylle, County Tulare, California  
 1896 Macfie, R. A., Ingenio Porvenir, C. por A., San Pedro de Macoris, Dominican Republic  
 1878 M'Kay, David, Fort-Wayne, Indiana  
 1879 Mackenzie, Murdo, Trinidad, Colorado, U.S.A.  
 1878 Nonnen, J. E., Norway—*Free Life Member*  
 1920 Rau, M. K. Venkata, M.A., F.L.S., 2117 Center Street, Berkeley, California, U.S.A.  
 1866 Shiels, George, Monett, Mo., U.S.A.  
 1897 Sproat, Hugh, Boise, Idaho, U.S.A.—*Free Life Member*  
 1906 Stockley, Wm. T., 645 Avenida de Mayo, Buenos Ayres, Argentine  
 1915 Thorbergason, Ian, Kanjeangur, Akureyri, Iceland  
 1869 Tweeddale, George W., Ivy Hill, Warminster, Nelson County, Virginia, U.S.A.  
 1895 Vulnger, Raymond, 6 Rue de Pré Aux Cleres, Paris

NUMBER OF MEMBERS, 80.

## FREE LIFE MEMBERS.

## HOLDERS OF AGRICULTURAL DIPLOMA.

Those marked with an \* are also holders of the First-Class Certificate in Forestry.

By a Bye-law passed in 1873, with reference to the Supplementary Charter of 1856, successful Candidates for the Society's Agricultural Diploma became eligible to be elected Free Life Members of the Society.

This arrangement terminated in 1900, when the Highland and Agricultural Society of Scotland and the Royal Agricultural Society of England discontinued the independent Examinations in Agriculture held by the two Societies, and instituted in their stead a Joint-Examination for a National Diploma in Agriculture (N.D.A.)

## Admitted

- 1899 Abram, Laurence, Education Department, County Hall, Truro, Cornwall  
 1879\* Aitken, John M., Norwood, Lockerbie  
 1882 Alexander, A. S., M.D.C., V.S., Professor of Veterinary Science, University of Wisconsin, Madison, Wis., U.S.A.  
 1898 Allan, Robert, Halfway House, Whitburn  
 1900 Allison, Herbert W., *last known address*, c/o Mr Short, Home Farm, Ingestre, Stafford  
 1876 Anderson, R. Lang, Airds, Appin  
 1897 Ashby, S. F., 110 Liverpool Road, Birkdale, Southport  
 1887 Banerjee, N. N., Calcutta  
 1896 Barron, James, Heathcote Farm, Warwick  
 1883 Basu, Giris Chandra, Bangabasi College, Calcutta  
 1884 Benson, R. A., Duchy of Cornwall Office, Liskeard, Cornwall  
 1885 Birch, Walter de Hoghton, Hoghton Estate Office, Walton Hall, Preston  
 1899 Brown, Ernest C., 488 Young Street, Winnipeg, Canada  
 1891 Brown, John, M.R.C.V.S., D.V.S.M., F.H.A.S., 55 York Place, Perth  
 1878 Browne, Colville, M.R.A.C., Swanley Junction, Kent  
 1900 Bruce, William, B.Sc., of Seton Mains, Longniddry  
 1896 Burkhitt, William, B.Sc., N.D.D., Grange Hill, Bishop Auckland  
 1874 Burn, Forbes, Veterinary College, Brunswick Street, Fitzroy, Melbourne  
 1900 Burton, John H., County Education Office, Weston-super-Mare  
 1882 Buttar, Thomas A., Corston, Coupar-Angus  
 1873 Campbell, George, Dollardstown House, Athy, Co. Kildare  
 1892 Campbell, J. R., Department of Agriculture, Dublin  
 1885 Campbell, Robert J., Oull, Castle-Douglas  
 1879 Cannon, James, Crown Place, Castle-Douglas  
 1878 Carr, Robert, The Elms, Berwick-on-Tweed  
 1887 Carrington, George, M.R.A.C., Missenden Abbey, Great Missenden, Bucks  
 1884 Clinton, H. E., Pelham, 1 Lion Place, Borthwick Hill, Bath

## Admitted

- 1899 Cole, James Thomson, c/o Post Office, Ulverstone, Tasmania  
 1891 Coward, T. A., c/o Manager, London City & Midland Bank, Northallerton  
 1880 Craig, William, Corriemuckloch, Amulree  
 1898 Cryer, John, 182 Cliff Wood Mount, Bradford Road, Shipley, Yorks  
 1896 Daine, Mrs (*nee* Fraser), Claverton, See Road, Huyton, Liverpool  
 1894 Daine, Herbert S., Inglewood, Manley, Helsby, Warrington  
 1887 Davies, Edward Smith, Seedgreen Park, Stourport, Worcestershire  
 1894 De la Mothe, Joseph, Grand Bacolet Estate, St Andrew's Parish, Grenada, West Indies  
 1899 Dellafield, A. H., 37 The Avenue, Brondesbury Road, London, N.W. 6  
 1886 Dickson, Thomas A., Estate Office, Overstone Park, Northampton  
 1895 Dixon, Albert Alex., Tanwood House, Chaddesley Corbett, near Kidderminster  
 1888 Driberg, Christopher, Agricultural Department, Colombo, Ceylon  
 1892 Duncan, James L., Clutha Villa, Barone Road, Rothersey  
 1887 Dunlop, Andrew T. L., Lyonston, Maybole  
 1882 Ensor, Thomas Henry, 54 South Street, Dorchester  
 1891\* Fleet, W. J., "Imaka," King's Road, Bournemouth  
 1891 Forbes, A. C., Avendale Forestry Station, Rathdrum, Co. Wicklow  
 1895\* Fraser, Alexander, Earnside, Alves, Forres  
 1896 Fraser, Miss Margaret N. (Mrs Daine)  
 1898 Fraser, Sam., Genesee, Livingston County, New York  
 1900 Galloway, William, The Delves, Lanark  
 1885 Gibb, Robert Shirra, Wyndhead, Lauder  
 1889 Glielichrist, Professor D. A., Armstrong College, Newcastle-on-Tyne  
 1873 Goddard, H. R., M.R.A.C., Hammet Street, Taunton, Somerset  
 1894 Goodfellow, Alexander, High School, Kelso  
 1895 Greenwood, Thomas, M.D., County Asylum, Radcliffe, Nottingham

## Admitted

- 1892 Greig, Sir Robert Blyth, LL.D., M.C.,  
Board of Agriculture for Scotland,  
York Buildings, Queen Street, Edinburgh
- 1898 Gwillim, Robert, Duval, Saskatchewan,  
Canada
- 1898 Hacking, Thomas, 10 Sunnycroft Road,  
Western Park, Leicester
- 1887 Haig, Robert, Dollarfield, Dollar
- 1883 Hamilton, H. W., Willey Park Estate  
Office, Broseley, Shropshire
- 1884 Hardy, C. W. L., Gittesham, Honiton
- 1899 Harrison, William S., *last known address*,  
Agricultural College, Aspatia
- 1900 Hatrick, J. M., Glen Park, Johnstone,  
Renfrewshire
- 1878 Henderson, John, 12a Marloes Road,  
London, W. 8
- 1881 Hendgrson, W., Alton, Moffat
- 1896 Hewison, Robert, Edgecote, Banbury,  
Oxon.
- 1873 Hill, Arthur James, M.R.A.O., Gorton,  
Torquay
- 1894 Hill, Henry F., Trevalgas, Stratton,  
Cornwall
- 1899 Hincheliff, Joseph H., Department of  
Agriculture, Upper Merrion Street,  
Dublin
- 1897 Holm, Alexander, jun., Director of  
Agriculture, Nairobi, British East  
Africa
- 1898\*Home, J. H. Milne, Irvine House,  
Canonbie
- 1886\*Hooper, Cecil H., South-Eastern Agri-  
cultural College, Wye
- 1897 Howie, James L., Cairndhu Estate,  
Odzia, So. Rhodesia
- 1895 Hurley, George, Beech Cliffe Farm, New-  
castle, Staffs.
- 1888 Inman, A. H. (c/o Glyn, Mills, Currie,  
& Co.), 67 Lombard Street, London,  
E.C.
- 1900 Jackson, William, Windsor Castle,  
Annotto Bay, Jamaica, B.W.I.
- 1900 Jardine, Warburton O., Wardour Estate,  
Caura, Trinidad, B.W.I.
- 1890 Jeffrey, John J., Howdale, Lockerbie
- 1893 Jones, C. B., University College of Wales,  
Aberystwyth
- 1873 Jukes, R. F., M.R.A.C., *last known  
address*, Harley, Much Wenlock
- 1875 Kennedy, William, M.R.A.C., Lewes and  
County Club, Lewes, Sussex
- 1889 Ledingham, J. K., Fintry, Turriff
- 1898 Leslie, John, The Briars, Bieldside,  
Aberdeen
- 1896 Linton, Andrew, Gilmanseleuch, Sel-  
kirk
- 1891 Lister, Joseph, Fern Cottage, Great  
Broughton, Cockermouth, Cumber-  
land
- 1900 Lloyd-Williams, William R., Depart-  
ment of Agriculture, H.M. Customs  
Building, Wellington, New Zealand
- 1885 Lowrie, William, Prof. of Agriculture,  
*last known address*, Roseworthy, So.  
Australia
- 1876 Maconchy, John Arthur, M.R.A.C.,  
Kildare Street Club, Dublin
- 1878 McConnell, Primrose, Northwycke,  
Southminster, Essex
- 1876 McCracken, William, Crewe

## Admitted

- 1898 McCreath, James, West Cornwall  
Creamery, Lelant, R.S.O., Cornwall
- 1885 Macdonald, A. O., Director of Agricul-  
ture, Nairobi, British East Africa
- 1900 Mackenzie, Edward J., Hilton Farm,  
Tain
- 1887 Maitland, Harry Reid, Haddo, Methlick
- 1880 Martin, William, 135 Wellington Cres-  
cent, Winnipeg, Canada
- 1897 Mason, William G., Manager, Lobatsi  
Farms, Lobatsi, Bechuanaland Pro-  
tectorate, South Africa
- 1889 MIDDLETON, Sir T. H., C.B., M.A.,  
Development Commission, 6a Dean's  
Yard, Westminster, S.W. 1
- 1886 Moos, N. A. F., Director, Government  
Observatory, Bombay
- 1888 Muir, James, *last known address*, Rubers  
Law, West Byfleet, Surrey
- 1886 Mukerji, Nitya Gopal, Professor of Agri-  
culture, Civil Engineering College,  
Sibpur, Bengal
- 1875 Murray, Robert W. E., Blackford House,  
Blackford Avenue, Edinburgh
- 1899 Newton, Thomas, The Bent, Warburton,  
Warrington
- 1898\*Nobbs, Eric Arthur, Department of  
Agriculture, Salisbury, Rhodesia
- 1878 Nonnen, John Edward, Norway
- 1882 Norrie, William, Cairnhill, Monquhitter,  
Turiff
- 1894 Paterson, John Waugh, B.Sc., Ph.D.,  
Professor of Agriculture, University  
of Western Australia, Perth, W.A.
- 1897 Peet, John O., B.Sc., Ashbourne House,  
Spring Hill, Lincoln
- 1888 Perkins, Walter Frank, M.R.A.C., Boldre  
Bridge House, near Lymington
- 1900 Pimlott, James, Department of Agri-  
culture, &c., 4 Upper Merrion Street,  
Dublin
- 1899\*Potts, Professor George, Grey University  
College, Bloemfontein, South Africa
- 1877 Pudney, R. L., M.R.A.C., 16 Wallace  
Street, Herne Bay, Auckland
- 1898 Rackham, Stanley, Lloydminster, Sack,  
N.W.T., Canada
- 1889 Raelburn, Norman, *last known address*, 49  
Manor Place, Edinburgh
- 1882\*Reid, Peter, Haining, 38 Sherbrooke  
Avenue, Glasgow, S.S.
- 1896 Robertson, Andrew R., Department of  
Agriculture, Upper Merrion Street,  
Dublin
- 1888 Robertson, Charles T. A., Leaton Grange,  
Wellington, Salop
- 1900 Rushton, John O., County Education  
Offices, Stafford
- 1899 Sampson, Hugh C., Trichinopoly, S.  
India
- 1881 Sandison, Mark, Berg Vleit, Gourton,  
Natal, S.A.
- 1892 Schult, L. O., Santa Rosa, Arima,  
Trinidad
- 1894 Seton, Robert S., The University, Leeds
- 1890 Sessions, Harold, *last known address*,  
Lawn Lodge, Dawlish
- 1878 Sharp, J. J., Ewington, Humble
- 1898 Sim, James, Districts Forest Officer, King  
William's Town, South Africa
- 1895 Smith, David Lister, Birdforth School,  
Basingwold, Yorks.
- 1882 Smith, E. Hedley, B.L., Whittinghame,  
Prestonkirk

## Admitted

- 1900 Smith, Fred., 115 Brook Street, Macclesfield, Cheshire  
 1888 Smith, J. R. O., Mowhaugh, Kelso  
 1892 Solomon, F. O., Dauntsey's Agricultural School, West Lavington, Devizes, Wilts  
 1887\*Somerville, William, M.A., D.Sc., D.Cc., 121 Banbury Road, Oxford  
 1897 Sproat, Hugh, Boise, Idaho, U.S.A.  
 1887 Steele, Daniel, The Parsonage Farm, Stansted, Essex  
 1891 Stevens, Alexander Buchan, Queens-tonbank, Dirleton, East Lothian  
 1876 Sutherland, Alexander, Rampyards, Watten, Caithness  
  
 1895 Thomas, Gwyn Reid, *last known address*, 3 Sandwell Crescent, West Hampstead, London, N.W.  
 1894 Tipper, Charles J. R., 6 Beechwood, The Green, Kendal  
 1896 Townshend, Joseph H., Fillongley, nr. Coventry  
 1898 Trotter, John, B.Sc., c/o Laing, 128 Nicolson Street, Edinburgh  
  
 1898 Wade, Thomas, Straffen Station, Ireland  
 1897 Wakerley, Fred., 64 London Road, Grantham

## Admitted

- 1900 Wale, Bernard N., Rectory Farm, Bour-ton-on-the-Hill, Moreton-in-Marsh, Glos.  
 1896 Walker, F. P., Armstrong College, New-castle-on-Tyne  
 1878 Wallace, Robert, 45 East Claremont Street, Edinburgh  
 1894 Ward, Martin Hammond, New Farm, Horton Asylum, Epsom, Surrey  
 1883 Watson, H. A., North-Eastern Railway Office, York  
 1881 Weber, F. H., Hawthornden, Mumble-, Swansea  
 1894 Weir, James, Woodilee Farm, Lenzie  
 1891 White, W. E. C., Chatwood, Wokefield Green, Mortimer, Berks  
 1894 Whittaker, John D., Oxford and Cam-bridge Club, Pall Mall, London, S.W.  
 1894 Williams, David D., University College of Wales, Aberystwyth  
 1892 Wilson, James, jun., Royal College of Science, Dublin  
 1879 Wilson, John, jun., Gilbrea, Oakville, Ontario  
 1892 Wilson, William, Goodyhills, Maryport  
 1896 Wilton, James P., Hoard's Park Farm, Bridgnorth, Salop  
 1900 Wood, James, 3 Strathearn Road, Edin-burgh  
 1882 WRIGHT, Sir Robert P., Wenalt, Cross wood, Cardiganshire

NUMBER OF DIPLOMA HOLDERS, 154.

## HOLDERS OF FIRST-CLASS CERTIFICATE IN FORESTRY.

Also those in the above list marked with an \*.

- 1895 Annand, John F., 156 Union Street, Aberdeen  
 1911 Davidson, John D., 30 Park Place, Cardiff  
 1895 Davidson, William, Kearnstwick, Kirby Lonsdale, Westmoreland  
 1911 Doull, Donald, M.A., A R.C.Sc., 7 Station Road, Cambus, Stirling  
 1909 Fisher, George, Farnbrook, Pilling, Garstang, Lancs.  
 1897 Guthrie, Patrick Hugh, Cornox, Van-couver Island, B.C.  
 1892 Inglis, Alexander, *last known address*, Estate Office, Howcaple Cottage, Ross-on-Wye, Herefordshire  
 1922 M'Ewen, John, Monaughty Forest, by Elgin  
 1915 Mackay, James W., Forestry Commis-sioner, 156 Union Street, Aberdeen  
  
 1892 Menzies, John C., The Rowans, Collin-ton  
 1909 Mitchell, Alex., Rosebery, Gore-bridge  
 1909 Patten, John, jun., Hulne Park, Aln-wick  
 1922 Pope, Alfred, Swinaty Hall, Fewston, Harrogate  
 1901 Rabagliati, Duncan S., Fidra, Zeitoun, Egypt  
 1892 Robertson, Wm. W., Whitsome Cottage, Gordon, Berwickshire  
 1903 Scott, Frank, 35 Queensgate, Inverness  
 1906 Stockley, William T., 645 Avenida de Mayo, Buenos Ayres  
 1915 Watson, Harry, 6 Hyndford Street, Dundee  
 1907 Wilson, A. Frank, C.D.A., 164 Braid Road, Edinburgh

NUMBER OF CERTIFICATE HOLDERS, 19.

## ABSTRACT.

HONORARY MEMBERS . . . . .	7
FOREIGN ASSOCIATES . . . . .	3
GLASGOW . . . . .	1603
PERTH . . . . .	1315
STIRLING . . . . .	872
EDINBURGH . . . . .	1124
ABERDEEN . . . . .	1292
DUMFRIES . . . . .	1118
INVERNESS . . . . .	851
BORDER . . . . .	552
ENGLAND AND WALES . . . . .	582
IRELAND . . . . .	24
THE COLONIES . . . . .	108
FOREIGN COUNTRIES . . . . .	80
TOTAL NUMBER OF MEMBERS . . . . .	<u>9181</u>

**Highland and Agricultural Society of Scotland**

---

**I N D E X**

**TO**

**THE FIFTH SERIES**

**OF**

**THE SOCIETY'S TRANSACTIONS**

**(VOLUMES XXIX. TO XXXV. INCLUSIVE)**

**FROM 1917 TO 1923**

**IN TWO PARTS**

**I. INDEX OF AUTHORS' NAMES**

**II. INDEX OF SUBJECTS AND PLACES**

**EDINBURGH:**

**WILLIAM BLACKWOOD & SONS, 45 GEORGE STREET  
AND 37 PATERNOSTER ROW, LONDON**

**1923**



# INDEX OF AUTHORS.

## A

	Vol.	Page
ANDERSON, T., M.A., B.Sc. Plant-breeding . . . . .	XXXIII.	143

## B

BARCLAY, JAMES R. Aberdeen-Angus cattle: a historical sketch . . . . .	XXXIII.	80
BROWN, DAVIS, M.A., J.P. Red Poll cattle. Their history, characteristics, and capabilities . . . . .	XXXV.	69
BRUCE, WILLIAM, B.Sc. The breeding and management of pigs . . . . .	XXIX.	87
BURKITT, WILLIAM, B.Sc., F.H.A.S., N.D.D. Milking machines. Report on an investigation by the Society regarding the use of milking machines in Scotland . . . . .	XXIX.	229
BUTTAR, THOMAS A. Shropshire sheep . . . . .	XXXV.	84

## C

CAMERON, JAMES. The modern shorthorn . . . . .	XXXII.	101
CONNELL, Sir ISAAC, S.S.C. The Agriculture Act, 1920 . . . . .	XXXIII.	21
The Corn Production Act, 1917, and compensation for loss there- under . . . . .	XXX.	17
CONSTABLE, GEORGE W., and WILLIAM ELLIOT. Notes on wedge and shoulder drains . . . . .	XXX.	171

## D

DOUGLAS, CHARLES, D.Sc., C.B. The construction of dairy byres. Together with notes on various byres of improved construction, by W. R. WATSON, F.I.S.A. . . . .	XXXIV.	24
The origin of the Ayrshire breed of cattle . . . . .	XXXI.	133
The policy of the Agriculture Act . . . . .	XXXIII.	1
Scottish agriculture during the war . . . . .	XXXI.	1

## E

ELLIOT, WILLIAM, and GEORGE W. CONSTABLE. Notes on wedge and shoulder drains . . . . .	XXX.	171
---	------	-----



## F

	Vol.	Page
FINDLAY, WILLIAM M., N.D.A., and WILLIAM J. PROFFIT, M.A., B.Sc. Restoration of land to pasture . . . . .	XXXI	208
FRANCIS, P. A. Some observations on the Scottish poultry industry . . . . .	XXX.	126

## G

GRAHAM, ROBERT. Oxford Down sheep . . . . .	XXXII.	122
--	--------	-----

## H

HENDRICK, Professor JAMES, B.Sc., F.I.C. An experiment on finger-and-toe by liming . . . . .	XXXV.	54
Bracken rhizomes and their food value . . . . .	XXXI.	227
Fertilisers before and after the war . . . . .	XXXIV.	93
The growth of international trade in manures and foods . . . . .	XXXIX.	1
An improved scheme for determining unexhausted manurial values . . . . .	XXXII.	1
The measurement of soil drainage: with an account of the Craib- stone drain gauges . . . . .	XXXIII.	56
The use of lime in controlling finger-and-toe in turnips . . . . .	XXX.	137
HOBSON, GEORGE. British Friesian cattle . . . . .	XXX.	35
HOME, J. H. MILNE, F.H.A.S. Farm forestry . . . . .	XXXIII.	43
Hedges: their care and management . . . . .	XXIX.	50

## I

IVATTS, H. E. Egg-laying competitions. Their relation to the industry of egg- production . . . . .	XXXIII.	230
--	---------	-----

## L

LEIGHTON, GERALD, O.B.E., M.D., F.R.S.E. Some problems of the milk industry . . . . .	XXXIII.	180
--	---------	-----

## M

M'CALL, Professor JOHN R. Draught horses in the war . . . . .	XXXI.	122
M'CULLOCH, DAVID. Value of ensilage—views of users in Scotland . . . . .	XXXV.	28
MACDOUGALL, Dr R. STEWART, Consulting Zoologist to the Society. Insect and arachnid pests of 1916 . . . . .	XXIX.	116
Insect and arachnid pests of 1917 . . . . .	XXX.	56
Insect and arachnid pests of 1918 . . . . .	XXXI.	152
Insect and arachnid pests of 1919 . . . . .	XXXII.	152
Insect and arachnid pests of 1920 . . . . .	XXXIII.	105
Insect and arachnid pests of 1921 . . . . .	XXXIV.	157
Insect and arachnid pests of 1922 . . . . .	XXXV.	90
The ox warble or ox bot flies . . . . .	XXXI.	94
M'GOWAN, J. P., M.A., M.D., B.Sc. The relation of climate and other secondary factors to certain diseases in animals . . . . .	XXXII.	56
MACKENZIE, K. J. J., M.A., and F. H. A. MARSHALL, Sc.D. The inheritance of mutton points in sheep . . . . .	XXIX.	37
MACNEILAGE, ARCHIBALD. Famous Clydesdale sires . . . . .	XXXI.	189
MANSELL, ALFRED. The pig industry . . . . .	XXXII.	137

# INDEX OF AUTHORS.

5

	Vol.	Page
MARSHALL, F. H. A., Sc.D., along with K. J. J. MACKENZIE, M.A. The inheritance of mutton points in sheep . . . . .	XXIX.	37
MAXWELL, Sir JOHN STIRLING, Bart. Forestry and rural policy . . . . .	XXXI.	67

## O

OLDERSHAW, A. W., B.Sc.(Edin.), N.D.A. Modern ensilage practice . . . . .	XXIX.	68
ORR, J. B., D.S.O., M.C., M.A., M.D., D.Sc. The importance of mineral matter in nutrition . . . . .	XXXV.	1
The vitamin hypothesis and its practical significance in stock-feeding . . . . .	XXXIV.	52

## P

PATERSON, Principal W. G. R., B.Sc. Cattle-feeding experiments . . . . .	XXXII.	35
Cropping under war conditions . . . . .	XXX.	1
A pig-feeding experiment (indoor <i>versus</i> outdoor feeding) . . . . .	XXXV.	43
Report on an experiment on the manuring of oats . . . . .	XXIX.	182
Rotation cropping: on a demonstration area in Wigtownshire . . . . .	XXXIV.	115
PRENTICE, Miss E. M. Suffolk sheep . . . . .	XXXII.	127
PROBERT, WILLIAM J., M.A., B.Sc., and WILLIAM M. FINDLAY, N.D.A. Restoration of land to pasture . . . . .	XXXI.	208

## S

STANFIELD, Professor R., M.Inst.C.E., M.I.Mech.E. Description of tractors and implements at trial held at Fordel . . . . .	XXXV.	167
The oil and petrol engine on the farm . . . . .	XXXIV.	68
STEVENSON, WILLIAM, B.Sc., N.D.A., N.D.D. Dairy bacteriology. Part I. Bacteriology of milk . . . . .	XXIX.	153
Dairy bacteriology. Part II. Bacteriology of cream, butter, and cheese . . . . .	XXX.	97
Milk records, 1916 . . . . .	XXIX.	192
Milk records, 1917 . . . . .	XXX.	146
Milk records, 1918 . . . . .	XXXI.	261
Milk records, 1919 . . . . .	XXXII.	193
Milk records, 1920 . . . . .	XXXIII.	244
Milk records, 1921 . . . . .	XXXIV.	208
Milk records, 1922 . . . . .	XXXV.	132
STIRTON, JOHN, Secretary. Hundredth anniversary of first Show . . . . .	XXXIV.	1

## T

TOCHER, Dr J. F., Consulting Chemist to the Society. Analyses for members during 1916 . . . . .	XXIX.	222
Analyses for members during 1917 . . . . .	XXX.	175
Analyses for members during 1918 . . . . .	XXXI.	257
Analyses for members during 1919 . . . . .	XXXII.	221
Analyses for members during 1920 . . . . .	XXXIII.	261
Analyses for members during 1921 . . . . .	XXXIV.	230
Analyses for members during 1922 . . . . .	XXXV.	153
Investigation into milk yield of Ayrshire cows . . . . .	XXXI.	237
The relationship between citric solubility of phosphates and yield of turnip crop . . . . .	XXXIV.	196

## W

	Vol.	Page
<b>WATSON, W. R., F.I.S.A.</b>		
Notes on various byres of improved construction . . . . .	XXXIV.	24
<b>WATT, ANDREW, M.A., F.R.S.E.</b>		
Rainfall records for 1916 in inches . . . . .	XXIX.	286
Rainfall records for 1917 in inches . . . . .	XXX.	394
Rainfall records for 1918 in inches . . . . .	XXXI.	321
Rainfall records for 1919 in inches . . . . .	XXXII.	258
Rainfall records for 1920 in inches . . . . .	XXXIII.	295
Rainfall records for 1921 in inches . . . . .	XXXIV.	271
Rainfall records for 1922 in inches . . . . .	XXXV.	268
The weather of Scotland in 1916 . . . . .	XXIX.	274
The weather of Scotland in 1917 . . . . .	XXX.	382
The weather of Scotland in 1918 . . . . .	XXXI.	310
The weather of Scotland in 1919 . . . . .	XXXII.	247
The weather of Scotland in 1920 . . . . .	XXXIII.	287
The weather of Scotland in 1921 . . . . .	XXXIV.	263
The weather of Scotland in 1922 . . . . .	XXXV.	260
<b>WILSON, ROBERT.</b>		
Note on the commercial aspect of pig-feeding . . . . .	XXIX.	113
<b>"WIRELESS."</b>		
Graphic methods of representation of estate and farm accounts . . . . .	XXXIV.	139

## Y

<b>YOUNG, THOMAS, M.B.E., N.D.A., F.S.I.</b>		
Flax-growing in Scotland . . . . .	XXXII.	79

# INDEX OF SUBJECTS AND PLACES.

## A

	Vol.	Page
ABERDEEN-ANGUS cattle, by James R. Barclay . . . . .	XXXIII.	80
ABERDEEN SHOW, 1920—		
Aberdeen College agrees to appointment of Mr W. Brown as V.S.	XXXII.	391
Accounts—Mr MacNeillage asks information . . . . .	XXXIII.	433
Admission charges . . . . .	XXXII.	391
Alterations in prize list . . . . .	XXXIV.	382
Application for space by Agricultural and General Engineers, Limited . . . . .	XXXII.	389
Attending members on stock . . . . .	XXXIII.	392
Awards submitted . . . . .	XXXIII.	415
Blackface out-wintered classes . . . . .	XXXII.	383
British Friesian classes increased . . . . .	XXXII.	383
Mr William Brown, M.R.C.V.S., appointed . . . . .	XXXII.	385
"Casares" Junior Challenge Cup—conditions . . . . .	XXXIII.	406
Caterers appointed . . . . .	XXXIII.	411
Chairman reports as to joiners' strike . . . . .	XXXIII.	412
Dairy Shorthorn classes not accepted . . . . .	XXXII.	389
Date of Show . . . . .	XXXII.	380
Directors as attending members . . . . .	XXXIII.	406
Mr Garden A. Duff appointed convener of local committee . . . . .	XXXII.	384
Entertainments tax exemption renewed . . . . .	XXXIII.	419
Fleming & Co.'s timber contract accepted . . . . .	XXXII.	381
Forage contract . . . . .	XXXII.	389
Forage sub-committee . . . . .	XXXII.	380
Forestry Exhibition, grant of £20 and free space . . . . .	XXXII.	380
Free stands . . . . .	XXXII. 389; XXXIII.	408
Gate drawings not to be published . . . . .	XXXIII.	414
General meeting, 21st July . . . . .	XXXIII.	431
Goat classes . . . . .	XXXII.	383
Grant of £100 from Town Council . . . . .	XXXII.	375
Highland ponies classification . . . . .	XXXII.	383
Hotel accommodation and catering . . . . .	XXXII.	380
Judges appointed . . . . .	XXXII.	384
Judges at . . . . .	XXXIII.	391
Judges of new implements . . . . .	XXXIII.	411
Large black pig classes . . . . .	XXXII.	389
Local committee appoints attending members . . . . .	XXXIII.	408
Meeting of directors . . . . .	XXXIII.	413
Ministry of Transport agrees to restore former privileges . . . . .	XXXIII.	411
New implement awards . . . . .	XXXIII.	390
No classes for thoroughbreds . . . . .	XXXII.	389
Police arrangements . . . . .	XXXII.	380
Premiums offered . . . . .	XXXII. (Appendix) 61; awarded,	XXXIII.
The President on Parliamentary interference . . . . .	XXXIII.	432
Price and impression of catalogues . . . . .	XXXIII.	411

	Vol.	Page
<b>ABERDEEN SHOW—continued.</b>		
Prize list approved . . . . .	XXXII.	383
Probable credit balance . . . . .	XXXIII.	415
Railway arrangements as to restoration of privilege to men in charge of stock . . . . .	XXXII.	381
Mr John Reid appointed showyard erector . . . . .	XXXII.	385
Report of . . . . .	XXXIII.	318
Report to general meeting . . . . .	XXXII. 394, 398; XXXIII. 429,	434
Reserved seats, price of . . . . .	XXXIII.	411
Royal Infirmary asks permission to collect subscriptions . . . . .	XXXIII.	409
Scottish Bee-keepers' Association to provide half of prize-money for classes . . . . .	XXXIII.	406
Mr S. R. Sherwood appointed judge of large black pigs . . . . .	XXXII.	389
Site for B. W. T. A. refreshment booth . . . . .	XXXII.	389
Society to carry out timber contract . . . . .	XXXII.	385
Special prizes . . . . .	XXXII. 381, 384, 385, 389, 391; XXXIII. 406,	408
Stewards appointed . . . . .	XXXII.	385
Town Council grants free site and water supply . . . . .	XXXII.	375
Sub-committee to arrange timber contract . . . . .	XXXII.	381
Votes of thanks . . . . .	XXXIII.	432
Wool demonstrations at . . . . .	XXXIII.	411
See also "Show of 1920."		
<b>ACCOUNTS of the Society, Abstract of the</b> 1915-16, XXIX. 311; 1916-17, XXX. 419; 1917-18, XXXI. 345; 1918-19, XXXII. 361; 1919-20, XXXIII. 397; 1920-21, XXXIV. 285; 1921-22, XXXV. 383.		
<b>ACCOUNTS, graphic methods of representation of estate and farm, by "Wireless" . . . . .</b>	XXXIV.	139
<b>ACT, the Agriculture, 1920, by Sir Isaac Connell, S.S.C. . . . .</b>	XXXIII.	21
" Corn Production, 1917, and compensation for loss thereunder, by Isaac Connell, S.S.C. . . . .	XXX.	17
" Dangerous Drugs, 1920, consideration of . . . . .	XXXIII.	426
" the policy of the Agriculture, by Charles Douglas, D.Sc., C. B. . . . .	XXXIII.	1
" Seeds, 1920, Mr James Elder to attend conference . . . . .	XXXIII.	427
<b>AGRICULTURAL Advisory Committee—Mr W. Elliot appointed representative on . . . . .</b>	XXXI.	353, 356
<b>AGRICULTURAL Colleges, representatives appointed. See Appendix to each volume, p. 10.</b>		
" colleges in Scotland—Offered wild white clover seed . . . . .	XXXI.	360
" Committee—Parliamentary secretaries to give assistance . . . . .	XXXI.	377
<b>AGRICULTURAL costings—</b>		
Royal Commission on . . . . .	XXXII.	378
Memorandum as to . . . . .	XXXII.	374
Sir Hugh Shaw-Stewart reports proceedings at conference . . . . .	XXXII.	375, 376
<b>AGRICULTURAL diplomas—letter referred to National Agricultural Examination Board . . . . .</b>	XXXIV.	398
" " proposed conference . . . . .	XXXIV.	397
<b>AGRICULTURAL education.—Power to grant diplomas. See Appendix.</b>		
Conference to be called . . . . .	XXXII.	376
Arrangements for Conference . . . . .	XXXIII.	409
Conference of members of Education Authorities . . . . .	XXXIII.	407
Report of Conference . . . . .	XXXIII.	412
<b>AGRICULTURAL executive committees and advisory council—</b>		
Details of scheme requested . . . . .	XXXI.	370
Motion by Mr A. MacNeillage . . . . .	XXXI.	386
Procedure of election . . . . .	XXXII.	395
Reconstitution of delegates appointed . . . . .	XXXI.	375
Representatives on . . . . .	XXXII.	376
Suggested emendations . . . . .	XXXI.	376
<b>AGRICULTURAL labourers and extra time</b>	XXX.	451
" produce—conference re proposed decontrol of prices . . . . .	XXXII.	389
" shows prohibited by Ministry of Munitions . . . . .	XXX.	461

	Vol.	Page
<b>AGRICULTURAL Statistics, extracted from the Government returns—</b> XXIX. 287; XXX. 395; XXXI. 322; XXXII. 261; XXXIII. 296; XXXIV. 292; XXXV. 269.		
<b>AGRICULTURE, conference on the improvement of. See "Conference."</b>		
" report on conference on the improvement of . . . . .	XXX.	184
" Act, 1920, The, by Sir Isaac Connell, S.S.C. . . . .	XXXIII.	21
" Act, the policy of the, by Charles Douglas, D.Sc., C.B. . . . .	XXXIII.	1
" Scottish, during the war, by Charles Douglas, D.Sc., C.B. . . . .	XXXI.	1
" Scottish Council of, to be discontinued . . . . .	XXXII.	382
" wages and conditions of employment in, inquiry into . . . . .	XXX.	378
<b>ALLIES, relief of—Grant of £1000 . . . . .</b>	XXXII.	394
<b>ALLOTMENTS Exhibition—application for medals refused . . . . .</b>	XXX.	440
<b>AMMONIA, sulphate of—Mr W. Henderson of Lawton calls attention as to conditions of supply of . . . . .</b>	XXIX.	319
Replies as to resolution from Secretary for Scotland and Board of Agriculture, XXIX. 322. Mr James Elder dissatisfied with answer . . . . .	XXIX.	322
Resolution to Board of Agriculture as to distribution of, in 1915 . . . . .	XXIX.	320
<b>ANALYSES for members during 1916, by Dr J. F. Tocher . . . . .</b> 175; (1918) XXXI. 257; (1919) XXXII. 221; (1920) XXXIII. 261; (1921) XXXIV. 230; (1922) XXXV. 153.	XXIX. 222; (1917) XXX.	
Reduced fees only applicable to members not in arrears . . . . .	XXXV.	401
<b>ANIMAL Breeding, research in—</b>		
Application by joint-committee for financial support . . . . .	XXXIV.	414
Deputation received . . . . .	XXXV.	391
Grant of £500 recommended . . . . . XXXV. 396; confirmed, XXXV. 397; approved, XXXV. 415.		
<b>ANIMAL Diseases Investigation—</b>		
Conference to be held . . . . .	XXXI.	371
Proposed . . . . .	XXXII.	379
Representatives appointed . . . . .	XXXI.	371
Mr G. B. Shields appointed on committee . . . . .	XXXI.	377
<b>ANIMAL Diseases Research Association—</b>		
Grant of £1000 recommended . . . . .	XXXIII.	417
Grant of £1000 confirmed . . . . .	XXXIII.	420
Thanks for initial support . . . . .	XXXIII.	412
Society's rooms at disposal . . . . .	XXXIV.	411
<b>ANIMAL Diseases, research into, proposal for national scheme for . . . . .</b>	XXXI.	369
<b>ANIMAL Nutrition, research in—</b>		
Application for grant . . . . .	XXXV.	398
Deputation received . . . . .	XXXV.	402, 403
Letter as to grant . . . . .	XXXIII.	405
Funds for establishment of institution for . . . . .	XXXII.	392
Grant of £500 recommended . . . . . XXXV. 406; confirmed, XXXV. 407; granted, XXXV. 418.		
<b>ANIMALS, the relation of climate and other secondary factors to certain diseases in, by J. P. M'Gowan, M.A., M.D., B.Sc. . . . .</b>	XXXII.	56
<b>ANNIVERSARY, hundredth, of first Show, by John Stirton . . . . .</b>	XXXIV.	1
<b>ANNUAL Show (1917), consideration of . . . . .</b>	XXIX.	327
<b>APHIDES on turnips—statement by Dr Macdougall . . . . .</b>	XXXII.	384
<b>ARABLE Land, acreage in each county of Scotland . . . . .</b> (1916) XXIX. 287; (1917) XXX. 895; (1918) XXXI. 822; (1919) XXXII. 221; (1920) XXXIII. 296; (1921) XXXIV. 272; (1922) XXXV. 269.		
<b>ARGYLE NAVAL FUND—</b>		
Abstract of the accounts . . . . .	1916, XXIX. 314; 1917, XXX. 422; 1918, XXXI. 384; 1919, XXXII. 366; 1920, XXXIII. 402; 1921, XXXIV. 390; 1922, XXXV. 388.	

	Vol.	Page
<b>ARGYLL NAVAL FUND—continued.</b>		
Report to general meeting . . . . .	1917, XXIX. 338; 1918, XXX. 461; 1919, XXXI. 384; 1920, XXXII. 398; 1921, XXXIII. 434; 1922, XXXIV. 422; 1923, XXXV. 420	
John Hay Forbes appointed on . . . . .		XXXV. 397
Reginald A. Forbes appointed on . . . . .		XXXIII. 407
John A. C. Macgregor appointed on . . . . .		XXXIII. 407
Donald G. Macintyre appointed on . . . . .		XXXV. 397
Iain Gillesbuig Maclean appointed on . . . . .		XXIX. 324
Seventh beneficiary to be added . . . . .		XXXI. 360
Vacancies to be advertised . . . . .		XXXI. 360
<b>ARMOUR, HARRY, nominated extraordinary director in place of the late Mr M'Hutchen Dobbie . . . . .</b>		
	XXIX. 323; elected, XXIX. 338	
<b>ARTICLES affecting agriculture, quantity and value of, imported into United Kingdom (1916) XXIX. 294; (1917) XXX. 402; (1918) XXXI. 329; (1919) XXXII. 266; (1920) XXXIII. 303; (1921) XXXIV. 279; (1922) XXXV. 276.</b>		
<b>ATHOLL, THE DUKE OF, death of . . . . .</b>		XXIX. 333
<b>ATHOLL, THE DUKE OF, refused permission to collect for Scottish War Memorial in Dumfries Showyard . . . . .</b>		XXXV. 394
<b>AUSTRALIAN soldiers and farm training—</b>		
Mr Wm. Hughes asks co-operation . . . . .		XXXI. 368
Placing of . . . . .	XXXI. 373; XXXII. 370	
<b>AYRSHIRE breed of cattle, the origin of the, by Charles Douglas, D.Sc., C.B. . . . .</b>		XXXI. 133
<b>AYRSHIRE Cattle Herd Book Society—</b>		
Offers Cowhill Champion Cup . . . . .		XXXIV. 413
Submits panel of judges and standards of judging . . . . .		XXXII. 390
<b>AYRSHIRE cows, investigation into milk yield of, by Dr J. F. Tocher . . . . .</b>		XXXI. 237
<b>AYRSHIRE heifer calves—</b>		
Regarding slaughter of . . . . .		XXXI. 352
Letter from chief live stock commissioner . . . . .		XXXI. 355
,B		
<b>BACTERIOLOGY, dairy. Part II. Bacteriology of cream, butter, and cheese, by William Stevenson, B.Sc. . . . .</b>		XXX. 97
<b>BACTERIOLOGY of milk. Part I., by William Stevenson, B.Sc. . . . .</b>		XXIX. 153
<b>BACTERIOLOGICAL tests not included in members' privileges . . . . .</b>		XXXV. 402
<b>BALFOUR OF BURLIGH, Lord—resolution on his death . . . . .</b>		XXXIV. 400
<b>BARLEY—</b>		
(Or bere) Acreage in each county of Scotland (1916) XXIX. 287; (1917) XXX. 395; (1918) XXXI. 322; (1919) XXXII. 259; (1920) XXXIII. 296; (1921) XXXIV. 272; (1922) XXXV. 270.		
Price of home-grown in the Edinburgh Market (1916) XXIX. 301; (1917) XXX. 409; (1918) XXXI. 335; (1919) XXXII. 273; (1920) XXXIII. 310; (1921) XXXIV. 286; (1922) XXXV. 281.		
Total produce, acreage, and average yield per acre in each county (1915) XXIX. 288; (1916) XXX. 396; (1917) XXXI. 323; (1918) XXXII. 280; (1919) XXXIII. 297; (1920) XXXIV. 273; (1921) XXXV. 270.		
<b>BAITER, WILLIAM, Tophead, calls attention to prices for luncheon . . . . .</b>		XXXIV. 422
<b>BEAN, GEORGE, suggests rules for hoeing competitions . . . . .</b>		XXX. 429
<b>BEAN meal—</b>		
Definition of . . . . .		XXX. 434
Professor Dewar takes exception to report on . . . . .		XXX. 459
Dr Tocher to draft letter containing amended representation . . . . .		XXIX. 329
Letter from Board of Agriculture . . . . .		XXX. 441
Representation to Board of Agriculture as to . . . . .		XXIX. 327
Representation and relative note approved . . . . .		XXXI. 331

	Vol.	Page
<b>BEANS—</b>		
Acresage in each county of Scotland	(1916) XXIX. 287 ; (1917) XXX. 395 ; (1918) XXXI. 322 ; (1919) XXXII. 259 ; (1920) XXXIII. 296 ; (1921) XXXIV. 272 ; (1922) XXXV. 269.	
Price of home-grown, in the Edinburgh Market	(1916) XXIX. 304 ; (1917) XXX. 412 ; (1918) XXXI. 338 ; (1919) XXXII. 275 ; (1920) XXXIII. 312 ; (1921) XXXIV. 288.	
Total produce, acresage, and average yield per acre	(1915) XXIX. 289 ; (1916) XXX. 397 ; (1917) XXXI. 324 ; (1918) XXXII. 261 ; (1919) XXXIII. 298 ; (1920) XXXIV. 274 ; (1921) XXXV. 271.	
BEEF prices, system of grading . . . . .	XXX.	450
BEEF Prices Order and Cattle Slaughter Order, report of deputation . . . . .	XXX.	442
BEQUEST of £100 from the late Mr Peter Brock . . . . .	XXIX.	328
"    £500 from Mrs Brock . . . . .	XXXIII.	417
BINDER twine, Mr Robertson calls attention to increased price of . . . . .	XXX.	447
BLACKFACE sheep, clipping of, sub-committee to consider . . . . .	XXIX.	332
BLACK Isle Farmers' Society, permission to award part of grant for cross-bred cattle . . . . .	XXXV.	396
<b>BOARD of Agriculture for Scotland—</b>		
Free space at Edinburgh show, 1919 . . . . .	XXXI.	374
Grain-drying sheds . . . . .	XXXI.	356
Grant to "Grass Sickness" investigation . . . . .	XXXIV.	394
Increases grant to £500 for demonstration of tractors and ploughs . . . . .	XXXI.	362
Letter as to demonstration of tractors . . . . .	XXX.	439
Letter as to seed-testing and registration station . . . . .	XXXI.	356
To purchase "Buckeye" ditching machine . . . . .	XXXI.	380
Representation as to bean meal . . . . .	XXIX.	327
Reply as to joint-ill in calves and lambs . . . . .	XXX.	428
Tender for supply of timber accepted—1922 Show . . . . .	XXXIV.	412
<b>BOARD meeting—</b>		
Alteration of date . . . . .	XXXV.	402
Date of December meeting, 1921 . . . . .	XXXIV.	403
BOARD of Scientific Societies, Society's representatives . . . . .	XXX.	429
BOT flies, the ox warble or ox, by Dr R. Stewart MacDougall . . . . .	XXXI.	94
<b>BOTANICAL Department—</b>		
Report to General Meeting	June 1916, XXIX. 337 ; June 1917, XXX. 460 ; June 1918, XXXI. 382 ; June 1921, XXXIV. 419.	
Scale of charges and instructions for selecting and sending samples will be found in the Appendix to each volume.		
BOTANIST'S report, Mr James Elder considers unnecessary . . . . .	XXXIV.	399
BRACKEN rhizomes and their food value, by Professor James Hendrick . . . . .	XXXI.	227
BRADLEY, Principal, letter as to inclusion of a veterinary surgeon on Scottish Board of Health . . . . .	XXXII.	374
BREADALBANE, THE MARQUIS OF, resolution on his death . . . . .	XXXV.	399
BREED of cattle, the origin of the Ayrshire, by Charles Douglas, D.Sc., C.B. . . . .	XXXI.	133
BREEDING and management of pigs, by William Bruce, B.Sc. . . . .	XXIX.	87
BRITISH Dairy Farmers' Association, conference regarding dairy diplomas . . . . .	XXXIV.	402
BRITISH Friesian cattle, by George Hobson . . . . .	XXX.	35
BROCK, Mrs Mary, of Treesbank, bequest of £500 . . . . .	XXXIII.	417
"    Peter, of Treesbank, bequest of £100 . . . . .	XXIX.	328
<b>BROWN, Andrew (caretaker)—</b>		
Increase of salary on return from military duty . . . . .	XXXII.	375
Salary increased . . . . .	XXXII.	381



	Vol.	Page
BROWN, Mrs, of Knockbren, offers challenge cup . . . . .	XXXIV. 410; XXXV. 418	
BROWN, Mr WILLIAM, M.R.C.V.S., appointed for Aberdeen Show, 1920	XXXII. 385	
"BUCKEYE" ditcher, purchase of . . . . .	XXXI. 366	
BURKITT, WILLIAM, B.Sc., to visit farms and draw up report on milking machines . . . . .	XXIX. 324	
" " report on milking machines to be published in pamphlet form . . . . .	XXIX. 384	
BUTTER, quantity and value of, imported into United Kingdom (1916) XXIX. 297; (1917) XXXI. 332; (1918) XXXI. 332; (1919) XXXII. 269; (1920) XXXIII. 306; (1921) XXXIV. 282; (1922) XXXV. 279.		
BYE-LAWS, alteration of, as to membership . . . . .	XXIX. 336	
BYRES, the construction of dairy, by Charles Douglas, D.Sc., C.B., with notes on various byres of improved construction, by W. R. Watson, F.I.S.A . . . . .	XXXIV. 24	
C		
CABBAGE, acreage in each county of Scotland (1916) XXIX. 287; (1917) XXX. 395; (1918) XXXI. 322; (1919) XXXII. 259; (1920) XXXIII. 296; (1921) XXXIV. 272; (1922) XXXV. 269.		
CALEDONIAN Railway Co. intimated that ground for Edinburgh Show (1915) had been let . . . . .	XXX. 427	
CAMPBELL, J. R., nominated director in room of Lord Lovat, resigned . . . . .	XXXII. 385; declines appointment, XXXII. 388	
CAMPBELL, JOSEPH, Balloch, submits collection of non-slip horse-shoes	XXXV. 393	
CANADIAN cattle—		
Embargo on, remarks by Dr J. W. Robertson . . . . .	XXXII. 372	
Importation of, no representatives to attend conference . . . . .	XXXIII. 427	
No delegate appointed . . . . .	XXXIV. 397	
Dr J. W. Robertson to address Board on embargo on . . . . .	XXXII. 370	
CASARES, E. R., jun., presents Champion Silver Cup . . . . .	XXXII. 381; XXXIII. 406	
CATALOGUES, price, impression, and sale of . . . . .	XXXIII. 411	
CATTLE—		
Number of, in each county in Scotland (1916) XXIX. 292; (1917) XXX. 400; (1918) XXXI. 327; (1919) XXXII. 264; (1920) XXXIII. 301; (1921) XXXIV. 277; (1922) XXXV. 274.		
Number of, imported into Great Britain from Ireland (1916) XXIX. 299; (1917) XXX. 407; (1918) XXXI. 334; (1919) XXXII. 271; (1920) XXXIII. 308; (1921) XXXIV. 284; (1922) XXXV. 280.		
Number and value of, imported into the United Kingdom (1916) XXIX. 299; (1917) XXX. 407; (1918) XXXI. 334; (1919) XXXII. 271; (1920) XXXIII. 308; (1921) XXXIV. 283; (1922) XXXV. 280.		
Prices of, returned under Markets and Fairs Act (1915) XXIX. 298; (1916) XXX. 406; (1917) XXXI. 333; (1918) XXXII. 270; (1919) XXXIII. 307; (1920) XXXIV. 288.		
CATTLE, Aberdeen-Angus, by James R. Barclay . . . . .	XXXIII. 80	
" Breeding, International Congress on—representative . . . . .	XXXV. 408	
" British Friesian, by George Hobson . . . . .	XXX. 35	
" Red Poll, their history, characteristics, and capabilities, by Davis Brown, M.A., J.P. . . . .	XXXV. 69	
" the modern Shorthorn, by James Cameron . . . . .	XXXII. 101	
" the origin of the Ayrshire breed of, by Charles Douglas, D.Sc., C.B. . . . .	XXXI. 133	
CATTLE orders—		
No recommendations at present . . . . .	XXX. 448	
System of grading beef prices . . . . .	XXX. 450	
CATTLE prices, recommendations to Food Controller . . . . .	XXXI. 358; reply from Ministry of Food, XXXI. 359	

	Vol.	Page
<b>CATTLE</b> Slaughter Order and Beef Prices Order, report of deputation .	XXX.	424
<b>CATTLE</b> , slaughter of, draft letter to Secretary for Scotland and Government proposals regarding . . . . .	XXX.	436
<b>CATTLE-FEEDING</b> experiments, by Principal W. G. R. Paterson, B.Sc.	XXXII.	35
<b>CAVERS, A. S.—</b>		
Desires to retire from position of second clerk . . . . .	XXXIV.	405
Salary to be considered on return from military duty . . . . .	XXXII.	371
Salary increased . . . . .	XXXII.	385, 413
<b>CENTENARY</b> Show, 1922, Dr Douglas calls attention to . . . . .	XXXIV.	396
<b>CEREAL</b> and other crops of Scotland, and the weather of Scotland (1916) XXIX. 251; (1917) XXX. 359; (1918) XXXI. 287; (1919) XXXII. 225; (1920) XXXIII. 266; (1921) XXXIV. 240; (1922) XXXV. 235.		
<b>CEREAL</b> prices, 1919—		
Chairman reported on . . . . .	XXXII.	375
Delegates to meet Scottish Coalition Committee . . . . .	XXXII.	373
Government pledge regarding . . . . .	XXXII.	371
Views of Board of Agriculture for Scotland . . . . .	XXXII.	372
<b>CHAIRMEN</b> of the Board—		
Dr Charles Douglas re-elected . . . . .	XXIX. 326; XXX. 440; XXXI. 365	
Mr David Ferrie elected . . . . .	XXXII. 379; re-elected, XXXIII. 415	
Sir Hugh Shaw Stewart, Bart., C.B., elected . . . . .	XXXIV. 401; re-elected, XXXV. 399	
<b>CHAIRMEN</b> of Committees. See Appendix to each volume.		
<b>CHAMBERS</b> , motion as to more convenient premises as . . . . .	XXXII.	332
" for meetings of Animals Diseases Research Association . . . . .	XXXIV.	411
<b>CHEESE</b> , quantity and value of, imported into United Kingdom (1916) XXIX. 297; (1917) XXX. 405; (1918) XXXI. 332; (1919) XXXII. 269; (1920) XXXIII. 306; (1921) XXXIV. 282; (1922) XXXV. 279.		
<b>CHEMICAL DEPARTMENT—</b>		
The conditions and regulations governing the Chemical Department will be found in the Appendix attached to each volume. See "Science Department."		
<b>CHEMIST's</b> fee raised to £100 . . . . .	XXXI.	362
<b>CITRIC</b> solubility of phosphates, the relationship between, and yield of turnip crop, by Dr J. F. Tocher . . . . .	XXXIV.	196
<b>CLIMATE</b> and other secondary factors, the relation of, to certain diseases in animals, by J. P. M'Gowan, M.A., M.D., B.Sc. . . . .	XXXII.	56
<b>CLIPPING</b> of Blackface sheep, sub-committee to consider Mr Cowan's motion on . . . . .	XXIX.	332
<b>CLOVER</b> , acreage in each county of Scotland (1916) XXIX. 287; (1917) XXX. 396; (1918) XXXI. 322; (1919) XXXII. 259; (1920) XXXIII. 296; (1921) XXXIV. 272; (1922) XXXV. 269.		
<b>CLOVER</b> , sainfoin, and grasses—total produce, acreage, and average yield per acre (1915) XXIX. 291; (1916) XXX. 399; (1917) XXXI. 322; (1918) XXXII. 259; (1919) XXXIII. 300; (1920) XXXIV. 276; (1921) XXXV. 273.		
<b>CLOVER</b> , wild white, Mr George Wood offers seed . . . . .	XXXI.	355
<b>CLYDESDALE</b> sires, famous, by Archibald MacNeilage . . . . .	XXXI.	189
<b>COLLEGES</b> of Agriculture. Society's representatives. See Appendix to each volume.		
<b>COMMANDERING</b> of wool, Mr David Ferrie appointed on deputation to Financial Secretary to the War Office. Resolution adopted . . . . .	XXIX.	325
<b>COMMERCIAL</b> aspect of pig feeding, note on the, by Robert Wilson . . . . .	XXIX.	113
<b>COMMITTEES</b> , Standing. See Appendix to each volume.		

	Vol.	Page
COMPETITIONS, egg-laying, by H. E. Ivatts . . . . .	XXXIII.	230
CONFERENCE on the improvement of Agriculture—		
Arrangements reported to General Meeting . . . . .	XXIX. 339; XXX.	459
Chairman's remarks on . . . . .	XXX.	428
Congratulations to Secretary and Chairman of Board . . . . .	XXX.	442
Dates fixed . . . . .	XXIX.	333
Details reported . . . . .	XXX.	434
Membership cards issued . . . . .	XXX.	440
Report to General Meeting . . . . .	XXX.	461
Report on . . . . .	XXX.	184
Speakers reported . . . . .	XXX.	430
Sub-committee appointed . . . . .	XXX.	428
Suggestion approved . . . . .	XXIX.	329
To be held in Edinburgh in August 1917 . . . . .	XXIX.	331
CONJOINT Board of Scientific Societies, report of . . . . .	XXXI.	359
CONSTABLE, GEORGE W.—		
Calls attention to Fiars Court procedure . . . . .	XXXI.	354
Motion by, as to grain-drying sheds . . . . .	XXX.	448
Resolution as to Fiars Prices . . . . .	XXIX.	321
CONSTRUCTION of dairy byres, by Charles Douglas, D.Sc., C.B., with notes on various byres of improved construction, by W. R. Watson, F.I.S.A. . . . .	XXXIV.	24
COOK, WM. HOME, C.A. (Auditor), fee increased . . . . .	XXXIII.	413
CORN crops, acreage in each county of Scotland (1916) XXIX. 287; (1917) XXX. 395; (1918) XXXI. 323; (1919) XXXII. 259; (1920) XXXIII. 302; (1921) XXXIV. 279; (1922) XXXV. 269.		
CORN Production Act, 1917, and compensation for loss thereunder, by Isaac Connell, S.S.C. . . . .	XXX.	17
CORN, quantity and value of, imported into United Kingdom (1916) XXIX. 293; (1917) XXX. 401; (1918) XXXI. 323; (1919) XXXII. 265; (1920) XXXIII. 302; (1921) XXXIV. 278; (1922) XXXV. 275.		
COSTINGS, agricultural, memorandum as to permanent department . . . . .	XXXII.	374
COSTS of milk production, conference on . . . . .	XXXII.	379
COTTAGES and Gardens—		
Premiums awarded (1916) XXIX. 310; (1917) XXX. 418; (1918) XXXI. 344; (1919) XXXII. 359; (1920) XXXIII. 393; (1921) XXXIV. 381; (1922) XXXV. 380.		
Premiums offered (Appendix) (1917) XXIX. 57; (1918) XXX. 60; (1919) XXXI. 58; (1920) XXXII. 58; (1921) XXXIII. 58; (1922) XXXIV. 62; (1923) XXXV. 64.		
COWAN, ALEXANDER—		
Motion by, as to clipping of Blackface sheep . . . . .	XXIX.	332
Motion as to 'outwintered Blackface classes . . . . .	XXXII.	384
COWIE, EDWARD M. (Chief Clerk)—		
Salary increased . . . . .	XXXII. 371, 385; XXXIII. 413	
COWS and heifers, number of, in each county of Scotland (1916) XXIX. 292; (1917) XXX. 400; (1918) XXXI. 327; (1919) XXXII. 264; (1920) XXXIII. 296; (1921) XXXIV. 377; (1922) XXXV. 274.		
COWS, investigation into milk-yield of Ayrshire, by Dr J. F. Tocher . . . . .	XXXI.	237
CROPPING, rotation, on a demonstration area in Wigtownshire, by Principal W. G. R. Paterson, B.Sc. . . . .	XXXIV.	115
CROPPING under war conditions, by Principal W. G. R. Paterson . . . . .	XXX.	1
CROPS—		
Cereal and other, of Scotland, reports from counties in Scotland (1916) XXIX. 251; (1917) XXX. 359; (1918) XXXI. 327; (1919) XXXII. 225; (1920) XXXIII. 266; (1921) XXXIV. 240; (1922) XXXV. 235.		
Total acreage in each county of Scotland (1916) XXIX. 287; (1917) XXX. 395; (1918) XXXI. 322; (1919) XXXII. 259; (1920) XXXIII. 296; (1921) XXXIV. 272; (1922) XXXV. 270.		

	Vol.	Page
<b>CROSS, ALEXANDER—</b>		
Resignation as Honorary Secretary . . . . .	XXXIII.	415
Resolution on his death . . . . .	XXXIV.	400

D

<b>DAIRY Bacteriology—</b>		
Part I., Bacteriology of Milk, by William Stevenson, B.Sc., N.D.A., N.D.D. . . . .	XXIX.	153
Part II., Bacteriology of Cream, Butter and Cheese, by William Stevenson, B.Sc., N.D.A., N.D.D. . . . .	XXX.	97

<b>DAIRY byres, the construction of, by Charles Douglas, D.Sc., C.B., with notes on various byres of improved construction, by W. R. Watson, F.I.S.A. . . . .</b>	XXXIV.	24
---	--------	----

<b>DAIRY DEPARTMENT—</b>		
Butter. See "Butter."		
Diploma examinations. See "National."		
Milk records. See "Milk."		

<b>DAIRY examination, proposal for one centre . . . . .</b>	XXX.	431
---	------	-----

<b>DAIRY Shorthorns, offer of special prize declined (1920) . . . . .</b>	XXXII.	389
---	--------	-----

<b>DANGEROUS Drugs Act, 1920—</b>		
Consideration of . . . . .	XXXIII.	426
Dr Tocher to represent Society . . . . .	XXXIV.	396
Report to General Meeting . . . . . (June 1921)	XXXIV.	417
Regulations, Dr Tocher reports attending meeting in London . . . . .	XXXIV.	398

<b>DEATH of—</b>		
The Duke of Atholl . . . . .	XXIX.	333
Lord Balfour of Burleigh . . . . .	XXXIV.	400
The Marquis of Breadalbane . . . . .	XXXV.	399
Mr Alexander Cross of Knockdon . . . . .	XXXIV.	400
Mr John M'Hutcheon Dobbie . . . . .	XXIX.	326
Mr James Durno of Upper Mill . . . . .	XXXV.	399
Mr William Duthie, Tarves . . . . .	XXXV.	412
The Earl of Elgin . . . . .	XXIX.	333
Mr David Ferrie of Parbroath . . . . .	XXXV.	409
Sir John Gilmour of Montrave, Bart. . . . .	XXXIII.	414
Mr Alex. T. Gordon, M.P., of Newton . . . . .	XXXII.	369
The Earl of Haddington . . . . .	XXX.	440
The Earl of Home . . . . .	XXXI.	355
Mr Charles Howatson of Glenbuck . . . . .	XXX.	450
Sir Robert K. Inches, Edinburgh . . . . .	XXXI.	365
Mr A. F. Irvine of Drum . . . . .	XXXV.	394
Lord Kitchener . . . . .	XXIX.	323
Mr John Macdiarmid (Chief Clerk) . . . . .	XXXIII.	414
Mr Robert Macdiarmid, Corries . . . . .	XXXV.	396
Mr William Macdonald, Inverness . . . . .	XXXIII.	405
Mr P. B. M'Intyre, Findon Mains . . . . .	XXXIV.	398
Mr William Neilson, Haining Valley . . . . .	XXXI.	359
Lord Polwarth . . . . .	XXXIII.	414
The Hon. Neil Primrose . . . . .	XXX.	444
Colonel R. G. Wardlaw Ramsay of Whitehill . . . . .	XXXIV.	396
Sir Charles Bine Renshaw . . . . .	XXXI.	352
Mr John C. Robertson, Fodderty . . . . .	XXXIII.	410
Mr R. H. N. Sellar, Huntly . . . . .	XXXI.	365
Mr W. Simpson (Caretaker) . . . . .	XXXIII.	414
Major D. A. Spence, V.D., of Conveth Mains . . . . .	XXXIV.	400
Mr Duncan Stewart of Millhills . . . . .	XXXI.	375
Mr R. D. Thom of Pitlochrie . . . . .	XXXIV.	403

<b>DEFICIENT Samples, Chemists' reports on. See "Science Department."</b>		
---	--	--

<b>DEMONSTRATION of tractors and ploughs, October 1917, report on. See also "Tractor" . . . . .</b>	XXX.	295
---	------	-----

<b>DEMONSTRATION of farm tractors and tractor implements (1922) . . . . .</b>	XXXV.	167
---	-------	-----

DIPLOMA holders as free life members. See end of official list of members.

**DIRECTORS and office-bearers of the Society—**

Election of (1916) XXIX. 335; (1917) XXX. 456; (1918) XXXI. 378; (1919) XXXII. 393; (1920) XXXIII. 423; (1921) XXXIV. 415; (1922) XXXV. 414.

List of. See Appendix to each volume, p. 5.

Nomination by show districts, dates of meetings. See Appendix to each volume.

**DIRECTORS—**

Mr Harry Armour, nominated in room of the late Mr M'Hutcheon Dobbie . . . . . XXIX. 328

Mr J. R. Campbell, Glencassley, nominated a director in room of Lord Lovat, resigned . . . . . XXXII. 385; declines appointment, 388

Mr William A. Dron, Crieffvechter, nominated in room of the late Mr William Neilson . . . . . XXXI. 369

Mr John Elder, Berwick, nominated in room of the late Mr R. H. N. Sellar . . . . . XXXI. 369

Lieut.-Colonel Sir John A. Hope, Bart., M.P., nominated in room of the Marquis of Linlithgow . . . . . XXXV. 392

Motion by Mr A. B. Leitch, as to payment of directors' travelling expenses . . . . . XXXIV. 414

Motion by Mr Leitch as to payment of travelling expenses . . . . . XXXV. 393

Mr A. B. Leitch, Inchstellie, nominated in room of the late Mr John C. Robertson . . . . . XXXIII. 418

Marquis of Linlithgow resigns . . . . . XXXIV. 411

Lord Lovat resigns . . . . . XXXII. 383

Mr William Low of Balmakewan, appointed a director in room of the late Major D. A. Spence . . . . . XXXIV. 403

Mr A. E. F. Morison of Bognie, nominated in room of the late Lieut.-Colonel A. T. Gordon, M.P. . . . . XXXII. 375

Mr George Pendreigh, Upper Dalhousie, nominated in room of the late Sir Robert K. Inches . . . . . XXXI. 369

Statement of probable cost of Directors' travelling expenses—no action taken . . . . . XXXV. 396

DISEASES in animals, the relation of climate and other secondary factors to certain, by J. P. M'Gowan, M.A., M.D., B.Sc. . . . . XXXII. 56

DISEASES of Animals Acts, administration of . . . . . XXXII. 385; XXXII. 387

DISEASES of animals, investigation into . . . . . XXXII. 379, 384

DISTILLING, prohibition of, letters from Sir Robert Usher as to . . . . . XXIX. 324; no action taken, XXIX. 324

DISTRICT meetings, Inverness members to be called at different centres . . . . . XXXII. 376

**DISTRICT SHOWS—**

Application from Edinburgh Agricultural Association for grant in aid of funds . . . . . XXIX. 320

£12 Grant to Black Isle Farmers' Society—part for cross-bred . . . . . XXXV. 394

Grant of £15 to Northern Arts and Crafts Society . . . . . XXXIV. 413

Increased grant for Northern Counties Joint Show at Inverness, 1921 . . . . . XXXIV. 396

Lockerbie Agricultural Society to hold Show in October . . . . . XXXV. 395

Premiums awarded (1916) XXIX. 310; (1917) XXX. 418; (1918) XXXI. 344; (1919) XXXII. 359; (1920) XXXIII. 393; (1921) XXXIV. 381; (1922) XXXV. 380.

Premiums offered (Appendix) (1917) XXIX. 46; (1918) XXX. 46; (1919) XXXI. 46; (1920) XXXII. 46; (1921) XXXIII. 46; (1922) XXXIV. 50; (1923) XXXV. 50.

Report to general meeting (1917) XXIX. 338; (1918) XXX. 461; (1919) XXXI. 384; (1920) XXXII. 399; (1921) XXXIII. 436; (1922) XXXIV. 423; (1923) XXXV. 405.

Skye Agricultural Society to receive three medals for 1921 . . . . . XXXIV. 396

DITCHER. See "Tractor Ditcher."

	Vol.	Page
<b>DOBBIE, Mr J. M'HUTCHESON—</b>		
Resolution on his death . . . . .	XXIX.	326
Mrs Dobbie presents portrait of the late . . . . .	XXX.	429
<b>DOCKING OF HORSES Bill—</b>		
Mr James Lennox, Redhills, to represent views of the directors . . . . .	XXXIV.	397
Report to General Meeting . . . . . (June 1921)	XXXIV.	416
Bill withdrawn . . . . .	XXXIV.	398
<b>DOUGLAS, CHARLES, D.Sc.—</b>		
Appointed representative on Inter-Departmental Committee on Milk Regulations . . . . .	XXXII.	391
Appointed vice-convenor of Education Committee . . . . .	XXXIII.	407
Congratulations on honour of C.B. . . . .	XXX.	460
Evidence before Committee on Women in Agriculture . . . . .	XXXII.	370
Motion as to Conference on Agricultural Education . . . . .	XXXII.	376
Motion as to more convenient premises . . . . .	XXXII.	382
Motion as to Special Reserve Fund . . . . .	XXXV.	398
Nominated as honorary secretary . . . . . XXXIII.	415; elected,	433
Re-elected chairman . . . . . XXIX.	326; XXX.	440; XXXI.
Thanks to, as chairman of Board . . . . .	XXXII.	379
<b>DRAIN-CLEANING machine, offer of prize by Mr P. J. Mackie . . . . .</b>	XXX.	443
<b>DRAIN excavator "Revolt," report of private demonstration . . . . .</b>	XXXIII.	407, 408
<b>DRAINAGE, mechanical. See "Mechanical" and "Tractor."</b>		
<b>DRAINAGE, the measurement of soil, by Professor James Hendrick, B.Sc. . . . .</b>	XXXIII.	56
<b>DRAINING-PLOUGH—</b>		
Sub-committee to inspect, at Strathaven . . . . .	XXXIII.	426
Report by committee on . . . . .	XXXIV.	394
Report on the working . . . . .	XXXIII.	425
<b>DRAUGHT horses in the war, by Professor John R. M'Call . . . . .</b>	XXXI.	122
<b>DRON, WILLIAM A., Crieffvechter, nominated a director in room of the late Mr W. Neilson . . . . .</b>	XXXI.	369
<b>DRYING-sheds, grain, Board of Agriculture and Treasury grants . . . . .</b>	XXXI.	359
<b>DRYSDALE, JOHN, appointed representative on Milk Regulations . . . . .</b>	XXXIII.	407
<b>DUDGEON, Colonel R. F., C.B., appointed convenor of local committee for Dumfries Show, 1922 . . . . .</b>	XXXIV.	404
<b>DUFF, GARDEN A., appointed convenor of local committee, 1920 . . . . .</b>	XXXII.	384
<b>DUFFUS, Mrs Etta, letter as to veterinary examination of Shetland colts . . . . .</b>	XXXV.	394
<b>DUMFRIESSHIRE Education Authority, Mr J. H. Milne Home appointed to Advisory Council for the county . . . . .</b>	XXXII.	382
<b>DUMFRIES SHOW, 1922—</b>		
Additional judges appointed . . . . .	XXXIV.	412
Awards laid on table . . . . .	XXXV.	400
Ayrshire cattle, milking certificates to be printed in catalogue . . . . .	XXXIV.	412
Belted Galloways, class altered . . . . .	XXXIV.	410
Blue-Grey cattle classes proposed . . . . .	XXXIV.	405, 407
Blue-grey classes, conditions for . . . . .	XXXV.	392
Board of Agriculture to supply timber—approximate price £5000 . . . . .	XXXIV.	412
Caterers appointed . . . . .	XXXIV.	412
Champion medals offered . . . . .	XXXIV.	410
Class for mountain and moorland pony classes too late . . . . .	XXXV.	392
Collection for Scottish War Memorial refused . . . . .	XXXV.	394
Contribution by Ayrshire breeders in district . . . . .	XXXV.	413
Date altered to 18th July . . . . .	XXXIV.	401
Dates fixed . . . . .	XXXIV.	394
Dates further delayed . . . . .	XXXIII.	426
Directors as attending members . . . . .	XXXV.	392

	Vol.	Page
<b>DUMFRIES SHOW—continued.</b>		
Directors as honorary members of Dumfries and Galloway Club, and Southern Club, Dumfries	XXXIV.	407
Donation of £10s. 10s. to St Andrew's Ambulance Association	XXXV.	399
Donation of £50 from town council	XXXV.	394
Colonel R. F. Dudgeon, C.B., appointed convener	XXXIV.	404
Dun and Belted Galloway classes	XXXIV. 407,	413
Dun Galloways and ordinary classes	XXXV.	392
Entry fees for implements	XXXIV.	407
Forage Committee	XXXIV.	402
General meeting in Showyard	XXXV.	416
Goat classes, milking competition as formerly	XXXIV.	412
Horse-shoeing competitions	XXXIV. 409; age for juniors,	XXXIV. 412
Horse-shoeing competitions, committee on	XXXV.	394
Hotel accommodation and catering	XXXIV.	402
Hotel accommodation at Dumfries and Carlisle	XXXIV.	412
Hundredth Anniversary Show	XXXIV.	404
Judge of ducks suggested	XXXIV.	413
Judges appointed	XXXIV.	404
Judges of new implements	XXXV.	397
"Knockbrex" Cup for Belted Galloway	XXXIV.	410
Late evening	XXXIV.	404
Local committee appointed	XXXV.	392
Mr James Lindsay, M.R.C.V.S., appointed veterinary inspector	XXXIV.	407
Mr J. G. M'Myn added to Forage Committee	XXXIV.	404
Mr MacNeillage calls attention to date of	XXXIV.	423
Middle White and Cumberland Pig classes	XXXIV.	404
Mustad Nail Co. offers 2 gold medals for horse-shoeing	XXXIV.	413
No change in charges for stands	XXXIV.	405
No protests	XXXV.	398
Non-slip horse-shoe to be exhibited	XXXV.	397
Offer of Knockbrex Challenge Cup	XXXV.	399
Petition from breeders for additional class for Ayrshire heifers granted	XXXIV.	404
Premiums offered	XXXIV. (Appendix), 65; awarded,	XXXV. 67
Presentation of silver plate for horse-shoeing competitions	XXXIV.	410
Probable credit balance	XXXV.	400
Prize list submitted	XXXIV.	411
Prizes by Dr Crew accepted	XXXIV.	410
Red Poll classes and prize-money	XXXIV.	407
Red Poll class for yearling bulls	XXXIV.	410
Reduced charges for space	XXXIV.	411
Reduction of stock fees	XXXIV.	405
Report to General Meeting (June 1920) XXXIII. 429; (Jan. 1921) XXXIII. 434; (June 1921) XXXIV. 416; (Jan. 1922) XXXIV. 423.		
Report to general meeting	XXXV. 415,	420
Representatives appointed on horse-shoeing committee	XXXV.	397
Reserves for championships to receive rosettes and prize card	XXXIV.	409
Rest room for ladies, sub-committee appointed	XXXIV.	407
Room for lady members	XXXIV.	409
Rural Industries section	XXXIV.	407
Rural Industries, confined classes and prizes offered	XXXIV.	409
Scottish Bee-keepers' Association, offers £10s. 10s. towards prizes	XXXIV.	412
Shorthorn Cattle, ages to be reckoned from 1st January	XXXIV.	404
Site Committee appointed	XXXIII.	414
Site, negotiations for	XXXIII.	411
Site on Rotchell Estate recommended, at £300 rental	XXXIII.	417
Special prizes	XXXIV. 402, 404, 407, 410,	413
Special wool classes	XXXIV.	412
Stewards	XXXIV.	407
Sub-committee to consider suggested class for Blackface rough ewes and lambs	XXXIV.	410
Sub-Committee on timber contract	XXXIV.	410
Supply of gas, sub-committee appointed	XXXV.	397
Thanks for free sites	XXXV.	400
Veterinary examination for Shetland colts, suggested declaration not agreed to	XXXV.	394

	Vol.	Page
<b>DUMFRIES SHOW—continued.</b>		
Votes of thanks . . . . .	XXXV.	417
Water supply free . . . . .	XXXV.	394
West of Scotland Agricultural College stand . . . . .	XXXV.	397
Wording of Dr F. A. E. Crow's class for sheep . . . . .	XXXIV.	413
See also "Show of 1922."		
<b>DURNO, James, Crichtie, nominated a Director in room of his late father</b>	XXXV.	493
<b>DURNO, James, of Upper Mill, resolution on his death</b> . . . . .	XXXV.	399
<b>DUTHIE, WILLIAM, Tarves—</b>		
Offer of Perpetual Challenge Cup . . . . .	XXXIII.	416
Presentation of Perpetual Challenge Cup . . . . .	XXXIV.	421
Resolution on his death . . . . .	XXXV.	412

E

**EDINBURGH** Agricultural Association, application for grant, XXIX. 320; special grant refused, 322.

**EDINBURGH** Corn-Market grain tables 1916, XXIX. 300; 1917, XXX. 408; 1918, XXXI. 335; 1919, XXXII. 272; 1920, XXXIII. 309; 1921, XXXIV. 285; 1922, XXXV. 231.

**EDINBURGH SHOW, 1919—**

Abstract of Accounts . . . . .	XXXII.	364
Mr Allison added to Site Committee . . . . .	XXXI.	369
Alterations in awards . . . . .	XXXIII.	394
Apology from President . . . . .	XXXII.	396
Attending members appointed . . . . .	XXXII.	369
Awards laid on table . . . . .	XXXII.	380
Awards list . . . . .	XXXII.	312
Bee classes to be instituted . . . . .	XXXI.	732
Blackface sheep, declaration as to clipping . . . . .	XXXI.	372
Board of Agriculture granted free space . . . . .	XXXI.	374
Sir A. Buchan Hepburn, Bart., appointed convener of local committee . . . . .	XXXI.	372
Caledonian Railway Co. intimated that ground had been let . . . . .	XXX.	427
Catering Committee . . . . .	XXXI.	374
Charges for admission . . . . .	XXXII.	373
Co-operative Council of Highland Home Industries—free space . . . . .	XXXI.	374
Cricket pitches on the meadows . . . . .	XXXII.	394
Dates . . . . .	XXXI.	372
Entry fees to be doubled . . . . .	XXXI.	371
Entertainments Tax . . . . .	XXXII.	370
Exemption from Entertainments Tax . . . . .	XXXII.	373
Free admission to long-service certificate holders . . . . .	XXXII.	369
Forage Sub-Committee . . . . .	XXXI.	372
Forestry Exhibition, grant of £20 . . . . .	XXXI.	374
Goat classes suggested . . . . .	XXXI.	372
Professor A. Gofton appointed V.S. . . . .	XXXI.	375
Grant of £420 from Town Council . . . . .	XXXII.	375
Grant of £500 to Town Council for improvement of Meadows . . . . .	XXXII.	378
Highland ponies—classes for one type . . . . .	XXXI.	371
Income Tax Commissioners give notice of assessment . . . . .	XXXIII.	422
Judges and attending members . . . . .	XXXII.	357-8
Long-service certificates and medals to be presented . . . . .	XXXII.	369
New entrance gates, cost of . . . . .	XXXI.	371
No Show to be held in 1918 . . . . .	XXX.	446
Presentation of Victory Challenge Cups for Highland cattle . . . . .	XXXII.	397
Premiums offered . . . . . XXXI. (Appendix); awarded, XXXII.	XXXII.	311
Prize List submitted . . . . .	XXXII.	369
Probable credit balance . . . . .	XXXII.	380
Probable cost of erections . . . . .	XXXI.	371
Report of . . . . .	XXXII.	285
Report as to site . . . . .	XXXI.	370
Report to General Meeting . . . . . XXXI. 384; XXXII. 394; XXXII.	XXXII.	398
Shetland Sheep classes . . . . .	XXXI.	372



	Vol.	Page
<b>EDINBURGH SHOW—continued.</b>		
Shropshire Sheep to be placed after Suffolk in Prize List . . . . .	XXXI.	372
Site Committee appointed . . . . .	XXXI.	368
Site of Meadows accepted . . . . .	XXXI.	371
Sum for restoration of Meadows . . . . .	XXXII.	378
Special prizes . . . . .	XXXI.	374, 376
Stewards appointed . . . . .	XXXI.	374
Sub-Committee to deal with minor arrangements . . . . .	XXXII.	375
Votes of thanks . . . . .	XXXII.	396
Women's Rural Institutes, free space . . . . .	XXXI.	374
See also "Show of 1919."		
<b>EDUCATION, Agricultural, conference of members of Education Authorities . . . . .</b>		
	XXXIII.	407
<b>EDUCATION, expenditure on, no action taken . . . . .</b>	XXXV.	393
<b>EDUCATION BILL, letter from Morayshire Farmer Club . . . . .</b>	XXX.	453
" (SCOTLAND) BILL, recommendations regarding report on . . . . .	XXXI.	354
" Committee, Mr Charles Douglas appointed vice-convener . . . . .	XXXIII.	407
<b>EGG-LAYING competitions, by H. E. Ivatts . . . . .</b>	XXXIII.	230
<b>EGGS, quantity, and value of, imported into United Kingdom (1916) XXIX. 297 ;</b>		
(1917) XXX. 405 ; (1918) XXXI. 332 ; (1919) XXXII. 269 ; (1920)		
XXXIII. 306 ; (1921) XXXIV. 282 ; (1922) XXXV. 279.		
<b>ELDER, JAMES, Athelstaneford—</b>		
Appointed deputy on Fair Trading Council (Potatoes) . . . . .	XXXIII.	413
Discussion as to research in plant-breeding . . . . .	XXXI.	362
Motion by, as to inadequate representation of Scottish agricul-		
ture on Fertilisers Committee . . . . .	XXIX.	323
Suggests Board for new varieties of plants . . . . .	XXX.	432
To attend conference on Seeds Act, 1920 . . . . .	XXXIII.	427
<b>ELDER, JOHN, Berwick—</b>		
Nominated extraordinary director in room of Mr R. H. N. Sellar . . . . .	XXXI.	369
Appointed on Implements Committee . . . . .	XXXII.	370
<b>ELDER, THOMAS, of Stevenson, appointed on Scottish Central Council</b>		
Forage Department . . . . .	XXXII.	370
<b>ELECTION of office bearers. See "Directors."</b>		
<b>ELGIN, the Earl of, death of . . . . .</b>	XXIX.	333
<b>ELLIOT, WILLIAM, Lanark—</b>		
Appointed on Agricultural Advisory Committee . . . . .	XXXI.	356
Motion as to hand-singling of turnips . . . . .	XXX.	430
Suggestions regarding long-service awards . . . . .	XXXIII.	422
<b>EMPLOYMENT in agriculture, wages and conditions of, inquiry into . . . . .</b>	XXXII.	378
<b>ENGINE, Oil and Petrol, on the Farm, by Professor R. Stanfield . . . . .</b>	XXXIV.	68
<b>ENGINEER, Professor Stanfield's salary as . . . . .</b>	XXXII. 390 ; XXXIV. 405	
<b>ENSILAGE Practice, Modern, by A. W. Oldershaw, B.Sc., N.D.A. . . . .</b>	XXIX.	68
<b>ENSILAGE, value of, views of users in Scotland, by David M'Culloch . . . . .</b>	XXXV.	28
<b>ENTERTAINMENTS Tax—</b>		
Action for exemption of . . . . .	XXXII.	370
Conference as to complete exemption . . . . .	XXXIII.	420
<b>ENTOMOLOGICAL DEPARTMENT—</b>		
Conditions and regulations will be found in the Appendix to each		
volume from 1917-1923 inclusive.		
Insects and Arachnid Pests, by Dr R. S. MacDougall (1916) XXIX. 116 ;		
(1917) XXX. 56 ; (1918) XXXI. 152 ; (1919) XXXII. 152 ; (1920)		
XXXIII. 105 ; (1921) XXXIV. 157 ; (1922) XXXV. 90.		
<b>ESSAYS and Reports—</b>		
Premiums offered for. See Appendix to each volume.		

# INDEX OF SUBJECTS AND PLACES.

21

	Vol.	Page
ESTATE and Farm Accounts, graphic methods of representation of, by "Wireless" . . . . .	XXXIV.	139
EWART, Professor COSSAR, application for a grant towards inquiry not granted . . . . .	XXIX.	321
EXCAVATOR, "Revolt" Drain— Demonstration at Kelso . . . . .	XXXIII.	408
Report of private demonstration . . . . .	XXXIII.	407
EXPERIMENT on finger-and-toe by liming, by Professor J. Hendrick .	XXXV.	54
EXPERIMENT on pig-feeding (indoor <i>versus</i> outdoor feeding), by Principal W. S. R. Paterson . . . . .	XXXV.	43
EXPERIMENT on the manuring of oats, Report on, by Principal W. G. R. Paterson . . . . .	XXIX.	182
EXPERIMENTS, cattle-feeding, by Principal W. G. R. Paterson, B.Sc. .	XXXII.	35
EXPORT of live stock, resolution at conference of Scottish Stock-breeders and Breed Societies . . . . .	XXXII.	373
EXPORT of pure-bred stock, no action as to increase in outward freights	XXIX.	321

## F

FAIR Trading Council— Mr Ferrie as representative . . . . .	XXXIII.	412
Mr James Elder appointed deputy on . . . . .	XXXIII.	413
Discontinuation of meetings . . . . .	XXXIII.	425
FALLOW, bare, acreage in each county of Scotland (1916) XXIX. 287 ; (1917) XXX. 395 ; (1918) XXXI. 322 ; (1919) XXXII. 259 ; (1920) XXXIII. 296 ; (1921) XXXIV. 272 ; (1922) XXXV. 269.		
FAMOUS Clydesdale sires, by Archibald MacNeilage . . . . .	XXXI.	169
FARM Accounts, graphic methods of representation of Estate and, by "Wireless" . . . . .	XXXIV.	139
" forestry, by J. H. Milne Home, F.H.A.S. . . . .	XXXIII.	43
" machinery, proposed exhibition of . . . . .	XXXI.	355
" servants' hours, proposed conference . . . . .	XXXII.	392
" tractors and farm implements, demonstration of (1922) .	XXXV.	167
FARMS, Australian soldiers on, placing of . . . . .	XXXI. 373 ; XXXII. 370	
FARRIERS, registration of— Proposed registration of . . . . .	XXXII.	370
Letters as to . . . . .	XXXI.	376
Reply from Board of Agriculture . . . . .	XXXII.	372
FEEDING cattle, experiments, by Principal W. G. R. Paterson, B.Sc. .	XXXII.	35
FEEDING-STUFFS, milk supply and, resolutions in regard to . . . . .	XXX.	433
" table showing the value of, as manure, per ton . . . . .	XXXIII.	437 ;
XXXIV. 409.		
FERRIE, DAVID, of Parbroath— Appointed on deputation as to commandeering of wool and Resolution adopted . . . . .	XXIX.	325
Appointed to give evidence on Departmental Committee on Food Prices . . . . .	XXIX.	325
Appointed representative on Fair Trading Council . . . . .	XXXIII.	412
To represent Society on Prices Board for Potatoes . . . . .	XXXIII.	409
Elected chairman of Board . . . . .	XXXII. 379 ; re-elected, XXXIII.	415
Nominated member of Scottish Council of Agriculture . . . . .	XXXIII.	406, 408
Resolution on his death . . . . .	XXXV.	409
FERTILISERS and Feeding-Stuffs Act— Re proposed Bill . . . . .	XXXIII.	417
Sub-Committee to consider and report . . . . .	XXXIII.	419

	Vol.	Page
<b>FERTILISERS Committee—</b>		
Deputation appointed to meet Secretary for Scotland . . . . .	XXIX.	330
Dissatisfaction expressed with terms of reply . . . . .	XXIX.	330
Letter to Secretary for Scotland as to representation of Scottish Agriculture on . . . . .	XXIX.	327
Letters as to Scottish representation on . . . . .	XXIX.	322
Motion by Mr James Elder as to representation of Scottish agriculture on . . . . .	XXIX.	323
<b>FERTILISERS</b> , table showing the value of feeding-stuffs as manure per ton . . . . .	XXXIII.	437
"    before and after the war, by Professor Hendrick, B.Sc. . . . .	XXXIV.	93
<b>FIARS</b> Court procedure, Mr Constable calls attention to . . . . .	XXXI.	354
<b>FIARS</b> Prices—		
Draft Bill and Memorandum . . . . .	XXX.	444
Motion by Mr George W. Constable as to . . . . .	XXIX.	321
Further representations . . . . .	XXX.	454
Witnesses on committee . . . . .	XXX.	431
<b>FINANCE—</b>		
Appeal for new members . . . . .	XXX.	446
Application for grant to Glasgow Veterinary College . . . . .	XXXII.	390
Bequest of £100 from the late Mr Peter Brock of Treesbank . . . . .	XXIX.	328
Engineer's salary increased . . . . .	XXXII. 390; XXXIV.	405
Fees for analyses increased 50 per cent, and charges to members to be as before . . . . .	XXXI.	362
Grant of £600 towards capital expenditure of (Dick) Veterinary College (making £1000 in all) . . . . .	XXIX.	319
Grant of £800 to Glasgow Veterinary College . . . . .	XXXII. 392;	
approved, XXXIII. 434; confirmed, XXXIII. 417.		
Grant of £1000 to Animal Diseases Research Association . . . . .	XXXIII. 417;	
approved, XXXIII. 434.		
Grant of £500 to Joint Committee on Animal Diseases . . . . .	XXXV.	396
£500 to Joint Committee on Animal Nutrition . . . . .	XXXV.	406, 407
£10, 10s. towards expenses of counsel on railway rates . . . . .	XXXV. 397, 418	
Grant of £10 for research into animal diseases . . . . .	XXXII.	390
Grant of £2000 to Scottish Society for Research in Plant Breeding . . . . .	XXXI. 363, 383	
Grant of £1000 to Scottish Agricultural Committee for Relief of Allies . . . . .	XXXII. 370, 373, 394	
Grant of £100 for St Kilda Fund for supplies for inhabitants of island . . . . .	XXIX.	323
Grant of £50 to Scottish Women's Rural Institutes . . . . .	XXX. 455; XXXII.	385
£350 to be spent on grass sickness investigation . . . . .	XXXIII.	416
Increase of salaries of staff . . . . .	XXXII. 371, 385	
Increase of salaries from 1st March 1920 . . . . .	XXXIII.	413
Legacy of £500 from Mrs Brock's bequest . . . . .	XXXIII.	417
Mr MacNeillage asks information as to Accounts of Aberdeen Show, 1920 . . . . .	XXXIII.	433
Mr MacNeillage calls attention to salaries of staff . . . . .	XXXII.	398
Members' subscriptions cancelled while on military service . . . . .	XXXI.	377
Motion by Dr Douglas as to reserve fund . . . . .	XXXV.	398
Notice of assessment on profits of Edinburgh Show . . . . .	XXXIII.	422
Notice of General Meetings to be posted to individual members . . . . .	XXX.	452
Probable cost of Directors' travelling expenses . . . . .	XXXV.	396
Report to General Meeting (1917) XXIX. 338; (1919) XXXI. 384; (1920) XXXII. 397; (1921) XXXIII. 433.		
Royal (Dick) Veterinary College, Committee satisfied with conditions attached to proposed grant to . . . . .	XXIX.	324
Secretary's salary increased . . . . .	XXIX.	330
Seed oats and seed potatoes for St Kilda . . . . .	XXXII.	390
Show reserve fund—no action to be taken . . . . .	XXXV.	409
Mrs Simpson's retiring allowance increased to £30 . . . . .	XXXIII.	420
To consider certain classes of candidates on lower subscription . . . . .	XXXII.	347
Dr Tocher's fee raised to £100 . . . . .	XXXI.	362
£6000 to be placed on temporary loan account . . . . .	XXXII.	382
Mr R. C. Todd appointed second clerk . . . . .	XXXIV.	408
Mr J. G. Yardley appointed junior clerk . . . . .	XXXIV.	414

	Vol.	Page
<b>FINGER-AND-TOE</b> , experiment on, by liming, by Professor J. Hendrick	XXXV.	54
<b>FINGER-AND-TOE</b> in turnips, the use of lime in controlling, by Professor James Hendrick, B.Sc., F.I.C.	XXX.	137
<b>FISH</b> Manure, Mr J. W. Scarlett draws attention to value	XXXII.	399
" Meal, trials for cattle-feeding purposes recommended	XXXI.	357
" Meal for feeding pigs, letter from W. Mitchell & Sons, Ayr	XXXIII.	411
<b>FLAX-GROWING</b> in Scotland, by Thomas Young, M.B.E., N.D.A., F.S.I.	XXXII.	79
<b>FLEMING &amp; Co.</b> , Aberdeen, tender for hire of timber accepted (1921)	XXXII.	389
<b>FLIES</b> , the ox warble or ox bot, by Dr R. Stewart MacDougall	XXXI.	94
<b>FLOUR</b> , quantity and value of, imported into United Kingdom (1916) XXIX. 294; (1917) XXX. 401; (1918) XXXI. 329; (1919) XXXII. 266; (1920) XXXIII. 303; (1921) XXXIV. 279; (1922) XXXV. 276.		
<b>FOOD</b> Control, motion by Mr John Robertson as to maximum prices	XXX.	438
<b>FOOD</b> Controller, recommendations to, as to cattle prices, &c.	XXXI.	358
<b>FOOD</b> Prices—		
Mr D. Ferrie appointed to give evidence on Departmental Committee	XXIX.	325
Committee appointed to prepare evidence	XXIX.	325
<b>FOOD</b> products, quantity and value of, imported into the United Kingdom (1916) XXIX. 294; (1917) XXX. 402; (1918) XXXI. 329; (1919) XXXII. 266; (1920) XXXIII. 303; (1921) XXXIV. 279; (1922) XXXV. 276.		
<b>FOODS</b> , the growth of international trade in manures and, by Professor James Hendrick, B.Sc., F.I.C.	XXIX.	1
<b>FOOT-AND-MOUTH</b> Disease—		
Resolution by Northern Shorthorn Breeders' Association	XXXII.	385
Resolution regarding	XXXII.	388
<b>FORBES, JOHN HAY</b> , appointed as beneficiary on Argyll Naval Fund	XXXV.	397
<b>FORBES, REGINALD A.</b> , appointed on Argyll Naval Fund	XXXIII.	407
<b>FORESTRY</b> —		
Resolutions regarding reconstruction	XXXI.	357, 362
Resolution regarding report of sub-committee	XXX.	453
<b>FORESTRY</b> and rural policy, by Sir John Stirling-Maxwell, Bart.	XXXI.	67
<b>FORESTRY</b> Examination—		
Date of	XXXI.	356
Examiners appointed for 1922	XXXIV.	413
No candidates in 1919	XXXII.	385
Report of	XXXIII.	371
Report on (1917)	XXX.	429
Syllabus to be revised	XXXV.	413
Syllabus and winners of certificates will be found in the Appendix to each volume (1917) XXIX. 20; (1918) XXX. 20; (1919) XXXI. 20; (1920) XXXII. 20; (1921) XXXIII. 20; (1922) XXXIV. 20; (1923) XXXV. 22.		
To be held in 1917. Date fixed	XXIX.	332
<b>FORESTRY</b> , farm, by J. H. Milne Home, F.H.A.S.	XXXIII.	43
<b>FREE</b> life members, diploma holders as. See end of official List of Members.		
<b>FRIESIAN</b> cattle, British, by George Hobson	XXX.	35
<b>FRUIT</b> , acreage in each county of Scotland (1916) XXIX. 287; (1917) XXX. 395; (1918) XXXI. 322; (1919) XXXII. 267; (1920) XXXIII. 296; (1921) XXXIV. 280; (1922) XXXV. 269.		
<b>FRUIT</b> , vegetables, &c., quantity and value of, imported into United Kingdom (1916) XXIX. 295; (1917) XXX. 403; (1918) XXXI. 330; (1919) XXXII. 267; (1920) XXXIII. 304; (1921) XXXIV. 280; (1922) XXXV. 277.		
<b>FUEL</b> , peat as, motion by Mr G. W. Constable	XXXII.	370

	Vol.	Page
GAME and heather-burning, members to give evidence . . . . .	XXXII.	392
<b>GENERAL MEETINGS—</b>		
Members to receive notice by post . . . . .	XXX.	452
Motion to hold meeting in Corn Exchange . . . . .	XXIX.	329
Special meeting, 26th July 1918 . . . . .	XXXI.	383
<b>GENERAL SHOWS—</b>		
Aberdeen-Angus classification . . . . .	XXXV.	404
Aberdeen-Angus cattle, representation for increased classes . . . . .	XXXV.	398
Admission charges (1922) . . . . .	XXXIV.	405
Alcoholic drinks rule to remain . . . . .	XXXIV.	413
Ayrshire Cattle Herd Book Society submits panel of judges and standards of judging . . . . .	XXXII. 390; XXXII.	391
Ayrshire cattle—Milk Records certificate . . . . .	XXXII.	391
Ayrshire cattle, milking certificates to be printed in Catalogue . . . . .	XXXIV.	412
Ayrshire classes and regulations for milk-yield certificates . . . . .	XXXV.	410
Ayrshire heifers—Petition for additional class granted . . . . .	XXXIV.	404
Awards for new implements . . . . .	XXXII.	387
Bee classes instituted . . . . .	XXXI.	372
Blackface sheep, proposed declaration as to clipping . . . . .	XXXI.	372
Blackface out-wintered classes . . . . .	XXXII.	384
Carriage of stock by sea . . . . .	XXXIV.	394
"Casares" Junior Challenge Cup, conditions . . . . .	XXXIII. 406; altered,	425
Mr Casares increases value of cup and agrees to conditions . . . . .	XXXIII.	409
Catalogues to be sold from one stand . . . . .	XXXIII.	411
Catering booths increased in size . . . . .	XXXIV.	412
Challenge Cup by proprietors of 'Scottish Poultry News' . . . . .	XXXIII.	409
Championship reserves to receive rosettes and prize card . . . . .	XXXIV.	409
Charges for admission . . . . .	XXXII.	373
Charges for delivery of goods from station to Showyard . . . . .	XXXIII.	410
Collection for Scottish War Memorial refused . . . . .	XXXV.	394
Committee on authenticated milk-yield pedigrees of Ayrshires . . . . .	XXXV.	404
"Cowhill" Champion Cup offered . . . . .	XXXIV.	413
Cumberland Pig classes instituted . . . . .	XXXIII.	421
Cumberland Pig classes reinstated . . . . .	XXXV.	404
"Duthie" Perpetual Challenge Cup offered . . . . .	XXXIII.	416
Engineer's salary increased . . . . .	XXXII.	390
<b>Entertainment Tax—</b>		
Action for exemption . . . . .	XXXII.	370
Conference to be held in London . . . . .	XXXIII.	420
Exemption from . . . . .	XXXII.	373
Report of conference . . . . .	XXXIII.	423
Entry fees doubled . . . . .	XXXI. 371; reduced,	411
Entry fees for implements—Remitted to Finance Committee . . . . .	XXXIV.	408
Entry of New Zealand stock refused . . . . .	XXXIII.	422
Exhibition of motor vehicles . . . . .	XXXIII.	410
Free admission to long-service certificate holders . . . . .	XXXII.	369
Gate drawings not to be published . . . . .	XXXIII.	414
Gloucester Old Spots Pigs—Challenge Trophy . . . . .	XXXIII.	421
Highland Ponies—only one type . . . . .	XXXI.	371
Hours of judging certain classes . . . . .	XXXIII.	424
Hundredth anniversary—1922 Show . . . . .	XXXIV.	404
Implement charges reduced 12½ per cent . . . . .	XXXIV.	411
Invitation from Perth for 1917 Show . . . . .	XXIX.	329
Joint action with Royal Agricultural Society as to restoration of privilege that men with stock be carried free of charge . . . . .	XXXII.	381
Judging of certain classes in afternoon . . . . .	XXXIII.	418
Mr Kerr appointed on sub-committee to redraft rule as to veterinary examination of horses . . . . .	XXXIII.	418
Knockbrex Challenge Cup offered . . . . .	XXXV.	399
Large Black Pig classes . . . . .	XXXII.	389
Mrs S. Macdonald's cup declined on conditions suggested . . . . .	XXXIII.	416
Mrs S. Macdonald's cup for goats accepted . . . . .	XXXIII.	419
Ministry of Transport agrees to restore former privileges . . . . .	XXXIII.	411
New entrance gates . . . . .	XXXI.	371

	Vol.	Page
<b>GENERAL SHOWS—continued.</b>		
No reduction for Implement stands . . . . .	XXXIV.	405
Plant taken over from contractors . . . . .	XXXIII.	410
Premiums awarded (1919) XXXII. 311; (1920) XXXIII. 345; (1921) XXXIV. 321; (1922) XXXV. 319.		
Price and impression of Catalogues . . . . .	XXXIII.	411
Proposed Goat classes . . . . .	XXXI.	372
Railway charges for stock, &c.—deputation to Ministry of Trans- port . . . . .	XXXIII.	407
Recommended that no Show be held in 1917 . . . . .	XXIX.	329
Reduction of Implement entry fees . . . . .	XXXV. 406,	411
Reduction of stock fees . . . . .	XXXIV.	405
Mr John Reid appointed Showyard Erector . . . . .	XXXII.	385
Replicas of gold cups to be reduced . . . . .	XXXII.	382
Reserved seats, price of . . . . .	XXXIII.	411
Rest room for ladies—sub-committee to consider question . . . . .	XXXIV.	407
Room for lady members to be erected . . . . .	XXXIV.	409
Rural Industries section . . . . .	XXXIV.	407
Scottish Oxford-Down Sheep Breeders' Challenge Cup . . . . .	XXXV.	411
Shorthorn classes—ages to be reckoned from 1st January . . . . .	XXXIV.	404
Shorthorn classification . . . . .	XXXV. 395,	404
Shropshire breed to be placed after Suffolk in Prize List . . . . .	XXXI.	372
Silver medals for new implements . . . . .	XXXII.	400
Special Blackface Wool classes . . . . .	XXXIV.	412
Major Mark Sprot appointed steward of catering . . . . .	XXXV.	412
Veterinary examination of Shetland colts—suggested declaration not agreed to . . . . .	XXXV.	394
Thanks of Scottish Agricultural Implement Dealers' Association for reduction of fees . . . . .	XXXIV.	413
Timber contract to be carried out by Society . . . . .	XXXII.	384
Veterinary examination of horses. Rule 39 . . . . .	XXXIII.	425
"Victory" Challenge Cups for Highland cattle . . . . .	XXXII.	397
GILMOUR, Sir JOHN, Bart., resolution on his death . . . . .	XXXIII.	414
GILMOUR, W. P., appointed Society's representative on International Congress on Cattle Breeding . . . . .	XXXV.	411
<b>GLASGOW Veterinary College—</b>		
Application for grant . . . . .	XXXII.	390
Grant of £800 to . . . . .	XXXII. 392; confirmed,	XXXIII. 417
Conditions as to payment of grant . . . . .	XXXIII.	411
Thanks for proposed grant . . . . .	XXXIII.	406
Term of office of representatives . . . . .	XXXI.	359
GOFTON, Professor A., appointed V.S. for 1919 Show . . . . .	XXXI.	375
GOLD cups, replicas to be reduced in size . . . . .	XXXII.	382
GORDON, ALEXANDER T., M.P., resolution on his death . . . . .	XXXII.	369
GORDON & Co., GEORGE, Aberdeen, tender for hire of timber accepted . . . . .	XXXIV.	393
<b>GOVERNMENT Orders—</b>		
Report to General Meeting . . . . .	XXX.	457, 464
Statement by chairman as to policy of Directors . . . . .	XXX.	452
GOVERNMENT proposals regarding slaughter of cattle . . . . .	XXX.	436
GOVERNMENT stores, disposal of . . . . .	XXXI.	372, 373
<b>GRADING of lambs. See "Lambs."</b>		
GRADING of milk, letter from Scottish Board of Health . . . . .	XXXV.	400
GRADING of store lambs, scheme for . . . . .	XXXI.	362
GRAHAM, MARQUIS OF, presents "Victory" Challenge Cups for High- land cattle . . . . .	XXXII.	397

	Vol.	Page
<b>GRAIN</b> drying sheds—		
Board of Agriculture and Treasury grants . . . . .	XXXI.	359
Letter from Board of Agriculture for Scotland as to . . . . .	XXXI.	356
Motion by Mr G. W. Constable . . . . .	XXX.	448
Period for repayment of loans . . . . .	XXXI.	366
Report of sub-committee as to funds available for erection of . . . . .	XXX.	453
Report to General Meeting . . . . .	XXXI.	380
Sub-committee appointed . . . . .	XXX.	450
<b>GRAIN</b> , prices of, in Edinburgh Market (1916) XXIX. 287; (1917) XXX. 408; (1918) XXXI. 335; (1919) XXXII. 272; (1920) XXXIII. 309; (1921) XXXIV. 285; (1922) XXXV. 281.		
<b>GRAIN</b> sacks, shortage of railway, letter from Board of Agriculture for Scotland . . . . .	XXXI.	356
<b>GRAPHIC</b> methods of representation of estate and farm accounts, by "Wireless" . . . . .	XXXIV.	139
<b>"GRASS sickness"</b> Investigations—		
Accounts and report submitted, 1921 . . . . .	XXXIV.	405
Angus Agricultural Association desires investigation continued . . . . .	XXXV.	405
£30 allocated for water and blood examinations . . . . .	XXXI.	357
£250 voted for 1919 . . . . .	XXXI.	374
Grant of £200 authorised for 1920 . . . . .	XXXII.	389
Botanist and chemist to visit fields . . . . .	XXX.	446
Board of Agriculture for Scotland to contribute up to £500 for year from 1st May 1921 . . . . .	XXXIV.	394
Board of Agriculture for Scotland request detailed estimate of income and expenditure . . . . .	XXXIII.	423
Certain investigations recommended . . . . .	XXXI.	357
Chemist reports cases in Forfarshire . . . . .	XXXII.	375
Contribution by Angus Agricultural Associations and Perthshire Agricultural Society . . . . .	XXXII.	389, 390
Deputation to Board of Agriculture for Scotland suggested . . . . .	XXXIII.	422
Donation from Perthshire Agricultural Society . . . . .	XXXII.	391
Further expenditure to 31st October approved . . . . .	XXXV.	402
Investigation to be continued—£400 for toxin and anti-toxin mixture . . . . .	XXXV.	413
Investigation to be continued up to expenditure of £350 . . . . .	XXXIII.	416
Recommendations for investigation . . . . .	XXXI.	374
Reply from Board of Agriculture for Scotland as to continuation . . . . .	XXXIII.	422
Report by Chemist (June 1921) . . . . .	XXXIV.	419
Report by Chemist approved . . . . .	XXXV.	401
Report on work done . . . . .	XXXV.	422
Report to General Meeting (Jan. 1921) . . . . .	XXXIII.	435; (June 1921) XXXIV.
Reprints of report to be issued . . . . .	XXXV.	409
Dr Tocher to continue investigation . . . . .	XXXII.	359
Dr Tocher reported progress . . . . .	XXXI.	369
<b>GRASSES</b> under rotation, acreage in each county of Scotland (1916) XXIX. 287; (1917) XXX. 395; (1918) XXXI. 322; (1919) XXXII. 259; (1920) XXXIII. 296; (1921) XXXIV. 272; (1922) XXXV. 269.		
<b>GREEN</b> crops, acreage in each county of Scotland (1916) XXIX. 287; (1917) XXX. 395; (1918) XXXI. 322; (1919) XXXII. 259; (1920) XXXIII. 296; (1921) XXXIV. 272; (1922) XXXV. 269.		
<b>GROWTH</b> of international trade in manures and foods, by Professor James Hendrick, B.Sc., F.I.C. . . . .	XXIX.	1

## H

<b>HADDINGTON, EARL OF</b> , resolution on his death . . . . .	XXX.	440
<b>HARVEY, GEORGE</b> , presentation of portrait of . . . . .	XXXII.	382

	Vol.	Page
<b>HAY and straw crop, 1917—</b>		
Representatives to Scottish Forage Committee . . . . .	XXX.	452
Minute of joint-committee . . . . .	XXX.	441
Prices of . . . . .	XXX.	431
Representations as to prices . . . . .	XXX.	442
Sub-committee to consider matters . . . . .	XXX.	449
<b>HEATHEN-BURNING, game and, members to give evidence . . . . .</b>	XXXII.	392
<b>HEDGES, their care and management, by J. H. Milne Home, F.H.A.S. . . . .</b>	XXIX.	50
<b>HEIFER calves of Ayrshire breed, report to General Meeting . . . . .</b>	XXXI.	381
<b>HENDERSON, WILLIAM, Lawton—</b>		
Applies for expenses on deputation to Lord Rhondda . . . . .	XXX.	452
Calls attention of Society to Potato Orders . . . . .	XXX.	464
Calls attention as to conditions of supply of sulphate of ammonia . . . . .	XXIX.	319
Criticises management of Society . . . . .	XXX.	461
Dissents as to decision of committee as to costs of milk production . . . . .	XXXII.	399
Motion as to potatoes, 1918 crop . . . . .	XXXII.	400
Motion as to agenda and financial statement being issued to members . . . . .	XXX.	461
<b>HEPBURN, Sir ARCHIBALD BUCHAN, Bart., appointed convener of local committee, 1919 . . . . .</b>	XXXI.	372
<b>HIGHLAND cattle, "Victory" Challenge Cups for . . . . .</b>	XXXII.	397
<b>HIGHWAYS, locomotives on, revocation of Order . . . . .</b>	XXXV.	391
<b>HILL, A. E., proposed registration of farriers . . . . .</b>	XXXI.	376
<b>HOBING Competitions, rules for, XXX. 429; hand singling included in rules, 430.</b>		
<b>HOME, THE EARL OF, resolution on his death . . . . .</b>	XXXI.	355
<b>HOPE, Sir JOHN A., M.P., thanks to, on action as to exemption from Entertainments Tax . . . . .</b>	XXXII.	373
Nominated as an Ordinary Director in room of the Marquis of Linlithgow . . . . .	XXXV.	392
<b>HORSE-SHOW, non-slip, committee to report on . . . . .</b>	XXXV.	393
<b>HORSES, draught, in the war, by Professor John R. McCall . . . . .</b>	XXXI.	122
<b>HORSES, grass sickness amongst. See "Grass."</b>		
<b>HORSES—</b>		
Number of, in each county of Scotland (1916) XXIX. 202; (1917) XXX. 400; (1918) XXXI. 327; (1919) XXXII. 264; (1920) XXXIII. 301; (1921) XXXIV. 277; (1922) XXXV. 274.		
Number of, imported into Great Britain from Ireland (1916) XXIX. 299; (1917) XXX. 407; (1918) XXXI. 334; (1919) XXXII. 271; (1920) XXXIII. 308; (1921) XXXIV. 284; (1922) XXXV. 280.		
<b>HORSES, scarcity of, letter as to . . . . .</b>	XXX.	431
<b>HOME, J. H. MILNE, appointed to advisory council for Dumfriesshire . . . . .</b>	XXXII.	352
<b>HONORARY SECRETARY—</b>		
Resignation of Mr Alexander Cross . . . . .	XXXIII.	415
Mr Charles Douglas, D.Sc., C.B., nominated . . . . .	XXXIII.	415
<b>HOURS of Employment (No. 2) Bill—</b>		
Deputation as to . . . . .	XXXII.	381
Alternative scheme suggested . . . . .	XXXII.	385
<b>HOWATSON, CHARLES, of Glenbuck, resolution on his death . . . . .</b>	XXX.	450
<b>HUNDREDTH anniversary of first show, by John Stirton . . . . .</b>	XXXIV.	1
<b>I</b>		
<b>IMPERIAL and local taxation, letter from Glasgow Agricultural Society . . . . .</b>	XXXV.	393
<b>IMPLEMENTS—</b>		
Action as to delivery charges at Show . . . . .	XXXIII.	410
Delivery of, complaint to Ministry of Transport . . . . .	XXXIII.	409
reply from Ministry of Transport . . . . .	XXXIII.	412



	Vol.	Page
<b>IMPLEMENTS—continued.</b>		
Engineer's salary increased to £150 . . . . .	XXXIV.	405
Mr John Elder, Berwick, added to committee . . . . .	XXXII.	370
Proposed exhibition of farm machinery . . . . .	XXXI.	355
Proposed trial of turnip-lifting machines . . . . .	XXXII.	376
Report to General Meeting . . . . . XXXIII. 429; (Jan. 1921)	XXXIII.	435
Report on draining plough invented by Mr Thomas Pate . . . . .	XXXIV.	394
Report of trial of turnip-lifting machines . . . . .	XXXII.	387
Report on Smith & Wood's turnip-lifting machine . . . . .	XXXV.	393
<b>IMPLEMENTS, request for reduction of charges for space . . . . .</b>	<b>XXXV.</b>	<b>406</b>
Scheme for awards for new implements . . . . .	XXXII.	387
Tractor Demonstration, 1917. See under "T."		
Tractor Demonstration, 1922. " . . . . .		
Tractor Ditcher. " . . . . .		
<b>IMPORTANCE of mineral matter in nutrition, by Dr J. B. Orr, D.S.O., M.C. . . . .</b>	<b>XXXV.</b>	<b>1</b>
<b>IMPORTATION of stock from Ireland, no action taken . . . . .</b>	<b>XXXV.</b>	<b>395</b>
<b>IMPORTATION of Canadian cattle, no representatives to attend Conference . . . . .</b>	<b>XXXIII.</b>	<b>427</b>
<b>IMPROVED scheme for determining unexhausted manurial values, by Professor James Hendrick, B.Sc. . . . .</b>	<b>XXXII.</b>	<b>1</b>
<b>IMPROVEMENT of agriculture, conference on. See "Conference."</b>		
<b>INCHES, Sir ROBERT K., congratulations to XXIX. 330; resolution on his death. . . . .</b>	<b>XXXI.</b>	<b>365</b>
<b>INDUSTRIAL, Scientific and Industrial Research Department, Mr Peter MacIntyre appointed representative . . . . .</b>	<b>XXXII.</b>	<b>363</b>
<b>INDUSTRY, the pig, by Alfred Mansell . . . . .</b>	<b>XXXII.</b>	<b>137</b>
<b>INHERITANCE of mutton points in sheep, by K. J. J. Mackenzie, M.A., and F. H. A. Marshall, Sc.D. . . . .</b>	<b>XXIX.</b>	<b>37</b>
<b>INSECT and Arachnid Pests, by Dr R. S. MacDougall (1916) XXIX. 116; (1917) XXX. 56; (1918) XXXI. 152; (1919) XXXII. 152; (1920) XXXIII. 105; (1921) XXXIV. 157; (1922) XXXV. 90.</b>		
<b>INSTITUTES, Women's Rural, grant of £50 to . . . . .</b>	<b>XXXI.</b>	<b>352</b>
<b>INTERNATIONAL Congress on Cattle-breeding—Mr W. P. Gilmour appointed representative . . . . .</b>	<b>XXXV.</b>	<b>408, 411</b>
<b>INTERNATIONAL Harvester Co., not to claim expenses of carriage of tractors . . . . .</b>	<b>XXX.</b>	<b>445</b>
<b>INVERNESS SHOW, 1923—</b>		
Aberdeen-Angus classification . . . . .	XXXV.	404
Ayrshire classes and regulations for milk yield certificates . . . . .	XXXV.	410
Blackface sheep, rule as to out-wintered classes . . . . .	XXXV.	404
Committee on Authenticated Milk-yield pedigrees of Ayrshires . . . . .	XXXV.	404
Committee on forage tenders . . . . .	XXXV.	400
Cumberland pig classes reinstated . . . . .	XXXV.	404
Dairy Shorthorn classes . . . . .	XXXV.	407, 413
Dairy Shorthorns—prize money . . . . .	XXXV.	410
Date of show . . . . .	XXXV.	400
Free stands . . . . .	XXXV.	407
Free stands to North of Scotland College of Agriculture . . . . .	XXXV.	412
Goat classes . . . . .	XXXV.	412
Horse-shoeing competitions . . . . .	XXXV.	410
Hotel accommodation and catering . . . . .	XXXV.	401
Judges appointed . . . . .	XXXV.	404
Judge of dairy Shorthorns . . . . .	XXXV.	407
Judge of dairy Shorthorns appointed . . . . .	XXXV.	410
Mr W. Logan, M.R.C.V.S., appointed veterinary inspector . . . . .	XXXV.	407
Premium list revised . . . . .	XXXV.	401
President's medal for dairy Shorthorns . . . . .	XXXV.	412
Red Polls, extra classes refused . . . . .	XXXV.	404

	Vol.	Page
<b>INVERNESS SHOW—continued.</b>		
Reduction of charges for stands	XXXV.	411
Report, General Meeting (June 1921) XXXV. 416 ; (Jan. 1922) XXXIV. 423 ; XXXV. 415, 420.		
Rural industries, confined classes	XXXV.	412
Scottish Oxford-Down Sheep Breeders' Challenge Cup	XXXV.	411
Shorthorn classification	XXXV.	403
Shorthorn dairy classes refused	XXXV.	405
Space and grant of £20 for forestry exhibition	XXXV.	400
Sir Kenneth Mackenzie of Gairloch, Bart., appointed convener of local committee	XXXV.	404
Site granted	XXXIV.	398
Special prizes	XXXV. 401, 404, 407, 410,	412
Major Mark Sprot appointed steward of catering	XXXV.	412
Stewards appointed	XXXV.	407
Timber contract committee	XXXV.	401
Timber tenders to be advertised	XXXV.	404
J. Walker & Co., tender for timber accepted	XXXV.	407
INVESTIGATION into milk yield of Ayrshire cows, by Dr J. F. Tocher	XXXI.	237
IRELAND, importation of live stock from, no action taken	XXXV.	395
IRVINE, Mr A. F., of Drum, resolution on his death	XXXV.	394
<b>J</b>		
<b>JOINT-ILL—</b>		
In calves and lambs, letter from Board of Agriculture for Scotland	XXX.	428
Breed societies and	XXX.	443
Board wish fuller information	XXX.	430
Society's representatives at conference	XXX.	434
Suggestion that inquiry be extended to include calves and lambs.	XXIX.	333
<b>JUDGES—</b>		
List of—		
Edinburgh, 1919	XXXII.	357
Aberdeen, 1920	XXXIII.	391
Stirling, 1921	XXXIV.	379
Dumfries, 1922	XXXV.	378
<b>K</b>		
KERR, J. ERNEST, appointed on sub-committee as to Rule <i>re</i> veterinary examination of horses	XXXIII.	418
KESWICK, Major HENRY, presents "Cowhill" Champion Cup	XXXIV.	413
KITCHENER, Lord, reference on his death	XXIX.	323
<b>L</b>		
LAMBS, grading of store, scheme for	XXXI.	362
<b>LAMBS, grading of—</b>		
In south-western area	XXXI.	367
Letter from Live Stock Commissioner	XXXI.	368
Number below normal price	XXXI.	374
Reply from Live Stock Commissioner for Scotland	XXXII.	372
LAMBS, slaughter of	XXX.	451
LAND to pasture, restoration of, by William J. Profeit and William M. Findlay	XXXI.	208
<b>LAW and Parliamentary Committee—</b>		
Appointment of	XXX.	453
Memorial to be prepared <i>re</i> settlement of sailors and soldiers on the land	XXXI.	361
Report to General Meeting	XXXII. 394, 399 ; XXXIII. 430 ; (June 1921) XXXIV. 416.	
<b>LEITCH, A. B.—</b>		
Appointed representative <i>re</i> potato crop 1918	XXXI.	367
Motion as to payment of Directors' travelling expenses	XXXIV. 414 ; XXXV. 393.	

	Vol.	Page
LITCH, A. B.— <i>continued.</i>		
Nominated a director in room of the late Mr John C. Robertson, 418; elected, 483.	XXXIII.	
Proposal to hold exhibition of farm machinery . . . . .	XXXI.	355
LIGHTS on vehicles, chairman to give evidence before committee . . . . .	XXXII.	385
LIME, the use of, in controlling finger-and-toe in turnips, by Professor James Hendrick, B.Sc., F.I.C. . . . .	XXX.	187
LIMING, an experiment on finger-and-toe by, by Professor J. Hendrick . . . . .	XXXV.	54
LINDSAY, Mr JAMES, M.R.C.V.S., appointed Veterinary Inspector for Dumfries Show, 1922 . . . . .	XXXIV.	407
LINLITHGOW, THE MARQUIS OF, resignation as ordinary Director . . . . .	XXXIV.	411
LINSEED and cotton seed, scarcity of, action of chairman approved . . . . .	XXIX.	332
LIVE Stock—		
Export of, resolutions of Scottish stockbreeders . . . . .	XXXII.	374
Number of, in each county in Scotland. See "Horses," "Cattle," "Sheep," and "Pigs."		
Prices of, returned under Markets and Fairs Acts. See "Cattle," "Sheep," and "Pigs."		
(Restriction of Slaughter) Order, recommendation that heifer calves of Ayrshire breed be excluded, XXX. 451; Mr M'Caig as to, XXX. 464.		
No reply received as to heifer calves of Ayrshire breed . . . . .	XXX.	455
LOCOMOTIVES on highways, revocation of order . . . . .	XXXV.	391
LOGAN, WILLIAM, M.R.C.V.S., Inverness, appointed Veterinary Inspector (1923) . . . . .	XXXV.	407
LONG Service Medals—		
New design of medal adopted . . . . .	XXIX.	321, 324
No change on system of awards . . . . .	XXXIV.	396
Presentation to Mr and Mrs M'Larty . . . . .	XXXV.	411
Presentation to married couple . . . . .	XXXV.	407
Sub-committee to consider . . . . .	XXXIII.	424
Suggestions by Mr W. Elliot, Lanark . . . . .	XXXIII.	422
Thanks for wedding gift to Mr and Mrs M'Larty . . . . .	XXXV.	412
Two recipients to be married . . . . .	XXXV.	403
LOUPING-ILL—		
Dates of conferences . . . . .	XXXII.	389
Reports on conferences . . . . .	XXXII.	392
Sir Stewart Stockman to attend conference of farmers . . . . .	XXXII.	387
LOVAT, LORD, resignation as a Director . . . . .	XXXII.	383
LOW, WILLIAM, of Balmakewan, nominated a Director in room of the late Major D. A. Spence . . . . .	XXXIV. 403; elected, XXXIV.	422
Mc.		
MACANDREW & Co., D., Showyard plant taken over from . . . . .	XXXIII.	410
M'CAIG, JOHN, of Belmont—		
Appointed representative on Scottish Milk Advisory Committee . . . . .	XXXV.	370
Appointed representative on Milk Regulations . . . . .	XXXIII.	407
Calls attention to luncheon accommodation at Shows . . . . .	XXXIV.	402
Calls attention to slaughter of quey calves of Ayrshire breed . . . . .	XXX.	464
To represent Society on Costs of Milk Production . . . . .	XXXII.	379
MACDIARMID, JOHN (chief clerk), resolution on his death . . . . .	XXXIII.	414, 431
MACDIARMID, ROBERT, Corries, resolution on his death . . . . .	XXXV.	396
MACDONALD, Mrs S. GARROCHTY, offer of prize and cup declined on conditions suggested . . . . .	XXXIII.	416
MACDONALD, WILLIAM, Inverness, resolution on his death . . . . .	XXXIII.	405

	Vol.	Page
MACDOUGALL, Dr R. S., statement as to aphides on turnips . . . . .	XXXII.	384
MAOFARLANE, JOHN, appointed Veterinary Inspector at Stirling Show, 1921 . . . . .	XXXIII.	421
MACGREGOR, JOHN A. C., appointed on Argyll Naval Fund . . . . .	XXXIII.	407
MACHINERY, Trials of. See "Implements."		
MACINTYRE, DONALD G., appointed as beneficiary on Argyll Naval Fund . . . . .	XXXV.	397
MACINTYRE, PETER, appointed representative on Scientific and Industrial Research Department . . . . .	XXXII.	383
MACINTYRE, P. B., Findon Mains, resolution on his death . . . . .	XXXIV.	398
MACKENZIE, Sir KENNETH, of Gairloch, Bart., appointed convener of local committee (1923) . . . . .	XXXV.	404
MACKIE, PETER J., offer of prize for drain-cleaning machine . . . . .	XXX.	443
MACLEAN, IAIN GILLEASBUIG, appointed on Argyll Naval Fund . . . . .	XXIX.	324
MACNEILAGE, ARCHIBALD—		
Asks information as to accounts . . . . .	XXXIII.	433
Calls attention to date of Dumfries Show, 1922 . . . . .	XXXIV.	423
Calls attention to salaries of staff . . . . .	XXXII.	398
Motion by, as to agricultural executive committees . . . . .	XXXI.	386
Suggests 1925 Show in city of Glasgow . . . . .	XXXV.	421

M

MAGGOT Fly on sheep, report by chemist . . . . .	XXX.	443
MAITLAND, Miss A. (typist), salary increased . . . . .	XXXII. 371, 385; XXXIII. 413; XXXIV. 405	
MANGELS—		
Acreage in each county of Scotland (1916) XXIX. 287; (1917) XXX. 395; (1918) XXXI. 322; (1919) XXXII. 259; (1920) XXXIII. 296; (1921) XXXIV. 272; (1922) XXXV. 269.		
Total produce, acreage, and average yield per acre (1915) XXIX. 290; (1916) XXX. 398; (1917) XXXI. 325; (1918) XXXII. 262; (1919) XXXIII. 299; (1920) XXXIV. 275; (1921) XXXV. 272.		
MANURE, table showing the value of feeding-stuffs as, per ton . . . . .	XXXIII.	437
MANURES and feeding-stuffs, unexhausted values, proposed standard tables . . . . .	XXXV.	408
MANURES and foods, the growth of international trade in, by Professor James Hendrick, B.Sc., F.I.C. . . . .	XXIX.	1
MANURES, instructions for valuing. See Appendix to each volume.		
MANURIAL values, improved scheme for determining unexhausted, by Professor James Hendrick, B.Sc. . . . .	XXXII.	1
MANURING of oats, report on an experiment on the, by Principal W. G. R. Paterson . . . . .	XXIX.	182
MARGARINE, quantity and value of, imported into United Kingdom (1916) XXIX. 297; (1917) XXX. 405; (1918) XXXI. 332; (1919) XXXII. 269; (1920) XXXIII. 306; (1921) XXXIV. 282; (1922) XXXV. 279.		
MARTIN, HUGH, appointed representative re potato crop, 1918 . . . . .	XXXI.	367
MARTIN, JOHN M., Edinburgh, resignation of . . . . .	XXIX.	320, 323
MEAL, quantity and value of, imported into United Kingdom (1916) XXIX. 293; (1917) XXX. 401; (1918) XXXI. 328; (1919) XXXII. 265; (1920) XXXIII. 302; (1921) XXXIV. 278; (1922) XXXV. 275		
MEASUREMENT of soil drainage: with an account of the Craibstone drain gauges, by Professor James Hendrick, B.Sc. . . . .	XXXIII.	56

	Vol.	Page
<b>MEAT—</b>		
Quantity and value of, imported into United Kingdom . . . . .	(1916) XXIX.	294 ;
(1917) XXX. 402 ; (1918) XXXI. 329 ; (1919) XXXII. 266 ; (1920)	XXXIII. 303 ; (1921) XXXIV. 279 ; (1922) XXXV. 276.	
(Dead) quantity and value of, imported into United Kingdom . . . . .	(1916) XXIX.	296 ; (1917) XXX. 404 ; (1918) XXXI. 331 ; (1919) XXXII. 268 ; (1920)
XXXIII. 305 ; (1921) XXXIV. 281 ; (1922) XXXV. 278.		
MEAT inspection uniformity—letter from Scottish Board of Health . . . . .	XXXII.	388
MEAT supplies, Watching Committee as to position of . . . . .	XXX.	466
<b>MECHANICAL Drainage—</b>		
Board of Agriculture for Scotland offer premium of £100 for best invention . . . . .	XXX.	451
Board of Agriculture to purchase Buckeye Ditcher . . . . .	XXXI.	360
Board of Agriculture to meet any loss on first year's working . . . . .	XXXI.	366
Further consideration postponed . . . . .	XXX.	445
Implement Committee to consider . . . . .	XXX.	444
Inquiry to U.S. Department . . . . .	XXX.	448
Sub-committee to arrange trials . . . . .	XXXI.	360
Sub-committee to report on . . . . .	XXXI.	353
See also "Tractor Ditcher."		
MEETINGS, date and time of . . . . .	XXXII.	383
MEMBERS on active service, usual privileges to . . . . .	XXX.	446
<b>MEMBERS—</b>		
Analyses for. See "Analyses."		
Arrears of subscriptions cancelled while on military service . . . . .	XXXI.	377
List of. See Appendix. (1918) XXX. 61 ; (1919) XXXI. B, 1 ; (1919-20)	XXXII. 99 ; (1921-22) XXXIV. 109 ; (1923) XXXV. B, 1.	
To receive notice of General Meetings by post . . . . .	XXX.	452
To receive summary of accounts . . . . .	XXX.	452
MEMBERSHIP subscription rates, consideration of certain classes of candidates . . . . .	XXXII.	374
<b>METEOROLOGY of Scotland. See "Weather."</b>		
<b>MILK—</b>		
Bacteriology of, by William Stevenson, B.Sc., N.D.A. . . . .	XXIX.	153
Control of the trade in—Delegates to meet Scottish Coalition Committee . . . . .	XXXII.	373
Grading of, letter from Scottish Board of Health . . . . .	XXXV.	400
Maximum price and cost of production . . . . .	XXX.	431
Mr Scott Plummer suggests no maximum price . . . . .	XXX.	431
Recommendations to Committee on the Production and Distribution of . . . . .	XXXI.	354
Summer prices of . . . . .	XXXI.	356
Industry, some problems of the, by Gerald Leighton, O.B.E., M.D., F.R.S.E. . . . .	XXXIII.	180
MILK Prices, letter from Ministry of Food noting representations with regard to . . . . .	XXXI.	352
<b>MILK Production—</b>		
Costs of . . . . .	XXXI.	375
Costs of, Conference on . . . . .	XXXII.	379
Members to give evidence . . . . .	XXXI.	376
Mr Wm. Henderson dissents on position taken up by Committee . . . . .	XXXII.	399
MILK, production and distribution of, representative appointed to meet Committee . . . . .	XXX.	455
MILK Records, report for 1916, by William Stevenson, B.Sc., N.D.A., N.D.D., XXIX. 192 ; (1917) XXX. 146 ; (1918) XXXI. 281 ; (1919) XXXII. 193 ; (1920) XXXIII. 244 ; (1921) XXXIV. 208 ; (1922) XXXV. 132.		
<b>MILK Regulations—</b>		
Mr C. Douglas appointed on Inter-Departmental Committee . . . . .	XXXII.	391
Inter-Departmental Committee on, representatives appointed . . . . .	XXXIII.	407
Members appointed to give evidence . . . . .	XXXIII.	413

	Vol.	Page
MILK standard, representatives appointed to discuss . . . . .	XXXII.	387
MILK supply and feeding stuffs, letter from Ministry of Food . . . . .	XXX. 433,	441
MILK yield of Ayrshire cows, investigation into, by Dr J. F. Tocher . . . . .	XXXI.	237
<b>MILKING Machines—</b>		
Mr William Burkitt, B.Sc., to visit farms and draw up report . . . . .	XXIX.	324
Mr Burkitt's report to be published in pamphlet form . . . . .	XXIX.	334
Mr Burkitt's report completed . . . . .	XXIX.	331
Investigation completed . . . . .	XXIX.	339
Payment for report on . . . . .	XXIX.	332
Replies to inquiries from users of . . . . .	XXIX.	336
Replies to inquiries received . . . . .	XXIX.	322
Report by Mr Wm. Burkitt published as a separate pamphlet . . . . .	XXX.	457
Report by Mr Burkitt to be circulated . . . . .	XXIX.	329
Report on an investigation regarding the use of, in Scotland, by William Burkitt, F.H.A.S., N.D.D. . . . .	XXIX.	229
Schedule of Inquiries to users of . . . . .	XXIX.	319
Sub-committee to submit name of export to visit farms and draw up report . . . . .	XXIX.	322
MINERAL matter, the importance of, in nutrition, by Dr J. B. Orr, D.S.O., M.C. . . . .	XXXV.	1
<b>MINERAL phosphates—</b>		
Experiments recommended . . . . .	XXX.	443
Dr Tocher reported on . . . . .	XXXI.	369
Memorandum by chemist . . . . .	XXX.	429
£150 for experiments on . . . . .	XXX.	430
Report summarising results . . . . .	XXXIII.	423
MITCHELL, GEORGE B., appointed driver of tractor-ditcher . . . . .	XXXII.	373
MODERN ensilage practice, by A. W. Olderslaw, B.Sc., N.D.A. . . . .	XXIX.	68
MODERN Shorthorn, by James Cameron . . . . .	XXXII.	101
<b>MONTROSE, THE DUKE OF, K.G.—</b>		
Champion medals offered . . . . .	XXXIII.	426
Elected president, 1921 . . . . .	XXXIII.	428
Vote of thanks to . . . . .	XXXIV.	421
MORISON, A. E. F., nominated a director in room of the late Lieut.-Colonel A. T. Gordon, M.P. . . . .	XXXII. 375; elected, XXXII.	394
MORRIS, RUSSELL, & Co., Ltd., not to charge expenses for carriage of tractor . . . . .	XXX.	447
<b>MOTOR Implements—</b>		
Committee to prepare statement as to . . . . .	XXIX.	336
Sub-committee to visit farms . . . . .	XXIX. 329,	339
Sub-committee to prepare statement as to . . . . .	XXIX.	319
Suggestion to visit farms and report . . . . .	XXIX.	328
MOTOR ploughs, regarding facilities to makers . . . . .	XXXI.	353
MOTOR ploughing, Caledonian Railway offers two fields . . . . .	XXIX.	333
MUNICIPAL and communal piggeries—Letter from Live Stock Commissioner for Scotland . . . . .	XXXI.	355
MUSTAD Nail Company, offer of two gold medals for horse-shoeing . . . . .	XXXIV.	413
MUTTON points in sheep, the inheritance of, by K. J. J. Mackenzie, M.A., and F. H. A. Marshall, Sc.D. . . . .	XXIX.	37

N

**NATIONAL Diploma in Agriculture—**

Agricultural Education Association asked for suggestions concerning syllabus . . . . .	XXXIV.	408
Report on examinations . . . . .	XXIX. 336; XXX. 458; XXXI. 381; XXXII. 395; XXXIII. 430; XXXIV. 416; XXXV. 416.	

	Vol.	Page
<b>NATIONAL Diploma—continued.</b>		
Restriction as to teachers as examiners removed . . . . .	XXXIV.	471
Scottish centre for Examination . . . . .	XXXIV.	408
Syllabus of examination. See Appendix to each volume— (1917) XXIX. 12; (1918) XXX. 12; (1919) XXXI. 13; (1920) XXXII. 12; (1921) XXXIII. 13; (1922) XXXIV. 13; (1923) XXXV. 12.		
Teachers may act as examiners . . . . .	XXXIV.	397
Winners of diploma (Appendix) . . . . .	(1916) XXIX. 18; (1917) XXX. 18; (1918) XXXI. 19; (1919) XXXII. 19; (1920) XXXIII. 19; (1921) XXXIV. 19; (1922) XXXV. 18.	
<b>NATIONAL Horse Association—no action as to affiliation . . . . .</b>	XXXV.	402, 409
<b>NATIONAL Diploma in Dairying—</b>		
Conference with B.D.F.A regarding award of dairy diplomas . . . . .	XXXIV.	402
Examination of 1917 to be held as usual . . . . .	XXX.	435
Proposal for one centre . . . . .	XXX.	431
Report of examinations . . . . .	XXIX. 339; XXX. 463; XXXI. 386; XXXII. 400; XXXIII. 436; XXXIV. 424; XXXV. 422.	
Syllabus of examination (Appendix) . . . . .	(1917) XXIX. 29; (1918) XXX. 29; (1919) XXXI. 29; (1920) XXXII. 26; (1921) XXXIII. 28; (1922) XXXIV. 28; (1923) XXXV. 29.	
Winners of diploma (Appendix) . . . . .	(1916) XXIX. 32; (1917) XXX. 32; (1918) XXXI. 32; (1919) XXXII. 32; (1920) XXXIII. 32; (1921) XXXIV. 32; (1922) XXXV. 32.	
<b>NATIONAL Policy in Trade—</b>		
Directors approve of conference being held . . . . .	XXIX.	334
No action taken as to memorial . . . . .	XXX.	427
<b>NEILSON &amp; CLELAND, Ltd., Coatbridge, offer two special prizes for horse-shoeing competition . . . . .</b>	XXXIV.	410
<b>NEILSON, WILLIAM, Haining Valley, resolution on his death . . . . .</b>	XXXI.	359
<b>NEW Implements, silver medals for, scheme approved . . . . .</b>	XXXII.	400
<b>NEW Members—</b>		
Appeal for . . . . .	XXX.	446
1300 nominations in 1920 . . . . .	XXXIII.	412
<b>NEW ZEALAND stock at Show, entry of . . . . .</b>	XXXIII.	422
<b>NOMINATION meetings, Inverness Show Division, to be called at different centres . . . . .</b>	XXXII.	376
<b>NOMINATION of Directors by Show Districts. See "Directors."</b>		
<b>NON-SLIP horse-shoe—</b>		
Committee to report on . . . . .	XXXV.	393
To be exhibited at Dumfries Show . . . . .	XXXV.	397
<b>NORTHERN Arts and Crafts Society, Inverness, grant of £15 . . . . .</b>	XXXIV.	413
<b>NOTE on the commercial aspect of pig-feeding, by Robert Wilson . . . . .</b>	XXIX.	113
<b>NOTES on wedge and shoulder drains, by George W. Constable and William Elliot . . . . .</b>	XXX.	171
<b>NUTRITION, the importance of mineral matter in, by Dr J. B. Orr, D.S.O., M.C. . . . .</b>	XXXV.	1

## O

**OATS—**

<b>Acres in each county of Scotland . . . . .</b>	(1916) XXIX. 287; (1917) XXX. 395; (1918) XXXI. 322; (1919) XXXII. 259; (1920) XXXIII. 296; (1921) XXXIV. 272; (1922) XXV. 269.
<b>Price, &amp;c., of home-grown in the Edinburgh market . . . . .</b>	(1916) XXIX. 303; (1917) XXX. 411; (1918) XXXI. 338; (1919) XXXII. 275; (1920) XXXIII. 312; (1921) XXXIV. 288; (1922) XXXV. 281.
<b>Total produce, acreage, and average yield per acre . . . . .</b>	(1915) XXIX. 288; (1916) XXX. 396; (1917) XXXI. 323; (1918) XXXII. 260; (1919) XXXIII. 297; (1920) XXXIV. 273; (1921) XXXV. 270.

	Vol.	Page
OATS, report on an experiment on the manuring of, by Principal W. G. R. Paterson . . . . .	XXIX.	182
OFFICE-BEARERS and Directors of the Society. See "Directors."		
OIL and petrol engine on the farm, by Professor R. Stanfield . . . . .	XXXIV.	68
ORIGIN of the Ayrshire breed of cattle, by Charles Douglas, D.Sc., C.B. . . . .	XXXI.	133
OVERSEAS Soldiers—		
Farm visits to be continued . . . . .	XXXI.	367
Sub-committee to arrange visits to Scottish farms . . . . .	XXX.	455
Thanks for arranging visits to farms . . . . .	XXXII.	380
Visits of . . . . .	XXXI.	354, 358
Ox Warble, or Ox Bot flies, by Dr R. Stewart MacDougall . . . . .	XXXI.	94
OXFORD Down sheep, by Robert Graham . . . . .	XXXII.	122

P

PAPER-MAKING, straw for, Dr Tocher submitted samples containing chaff and sand . . . . .	XXXI.	358
PARLIAMENTARY interference, the Duke of Richmond and Gordon on . . . . .	XXXIII.	432
PASTURE—		
Permanent, acreage in each county of Scotland (1916) XXIX. 287; (1917) XXX. 395; (1918) XXXI. 322; (1919) XXXII. 259; (1920) XXXIII. 296; (1921) XXXIV. 272; (1922) XXXV. 269.		
Permanent, total produce, acreage, and average yield per acre (1915) XXIX. 291; (1916) XXX. 399; (1917) XXXI. 326; (1918) XXXII. 263; (1919) XXXIII. 300; (1920) XXXIV. 276; (1921) XXXV. 273.		
PASTURE, restoration of land to, by William J. Profeit and William M. Findlay . . . . .	XXXI.	208
PATE, THOMAS, Strathaven, draining plough used by . . . . .	XXXIII.	425
PEAS—		
Acreage in each county of Scotland (1916) XXIX. 287; (1917) XXX. 395; (1918) XXXI. 322; (1919) XXXII. 259; (1920) XXXIII. 296; (1921) XXXIV. 272; (1922) XXXV. 269.		
Total produce, acreage, and average yield per acre (1915) XXIX. 289; (1916) XXX. 397; (1917) XXXI. 324; (1918) XXXII. 261; (1919) XXXIII. 298; (1920) XXXIV. 274; (1921) XXXV. 271.		
PEAT as fuel, motion by Mr G. W. Constable . . . . .	XXXII.	370
PENDREIGH, GEORGE, Upper Dalhousie, nominated Extraordinary Director in room of Sir Robert K. Inches . . . . .	XXXI.	369
PERTSHIRE Agricultural Society, donation of £50 towards "Grass Sickness" Investigation . . . . .	XXXII.	391
PERTH Show, report to general meeting . . . . .	XXXV.	415, 421
PESTS. See "Insect."		
PETROL, the oil and, engine on the farm, by Professor R. Stanfield . . . . .	XXXIV.	68
PHOSPHATES, relationship between citric solubility of, and yield of turnip crop, by Dr J. F. Tocher . . . . .	XXXIV.	196
PIGGERIES, municipal and communal—Letter from Live Stock Commissioner for Scotland . . . . .	XXXI.	355
PIG-FEEDING experiment, a (indoor <i>versus</i> outdoor feeding), by Principal W. S. R. Paterson . . . . .	XXXV.	43
PIG-feeding, note on the commercial aspect of, by Robert Wilson . . . . .	XXIX.	113
PIG industry, the, by Alfred Mansell . . . . .	XXXII.	137
PIG-REARING, meeting of Advisory Committee on . . . . .	XXX.	463
PIGS, breeding and management of, by William Bruce, B.Sc. . . . .	XXIX.	87





	Vol.	Page
<b>POTATO Crop, 1918—</b>		
Purchase and delivery of Scottish . . . . .	XXXI.	372
Representative to attend conference . . . . .	XXXI.	367
Scottish Central Allocation Authority—Mr Wm. Henderson sub- mits motion . . . . .	XXXII.	400
<b>POTATO Crop, 1919, adequate guarantee regarding minimum price . . . . .</b>	XXXI.	372
<b>POTATO Crops, 1918-19—Resolutions acknowledged . . . . .</b>	XXXI.	373
<b>POTATO-DIGGERS, suggested trial of . . . . .</b>	XXXIV.	399
<b>POTATO-LIFTING, school children and, re Fife Conference . . . . .</b>	XXXIII.	418
<b>POTATO-LIFTING machines—</b>		
Improvement of . . . . .	XXX.	446
Report to General Meeting . . . . .	XXXI.	380
Sub-committee to consider improvements on . . . . .	XXX.	448
<b>POTATO Orders—Mr Henderson calls attention to action of Society . . . . .</b>	XXX.	464
<b>POTATO Order, proposed new, deputation on . . . . .</b>	XXXV.	408
Report of deputation, 411.		
<b>POTATO Order, 1918—</b>		
Recommendations to write Food Controller regarding . . . . .	XXXI.	354
Recommendations of joint-committee . . . . .	XXX.	448, 450
Report to General Meeting . . . . .	XXXI.	381
Report of joint-deputation . . . . .	XXX.	454
Scheme now framed by committee . . . . .	XXXI.	359
Mr G. B. Shields appointed on Allocation Authority . . . . .	XXXI.	358
Society's representatives to Food Controller . . . . .	XXX.	450
<b>POTATOES—</b>		
Acreage in each county of Scotland (1916) XXIX. 287; (1917) XXX. 395; (1918) XXXI. 322; (1919) XXXII. 259; (1920) XXXIII. 296; (1921) XXXIV. 272; (1922) XXXV. 269.		
Analysis of, for starch . . . . .	XXXI.	377
Maximum prices of . . . . .	XXX.	431
Total produce, acreage, and average yield per acre (1915) XXIX. 289; (1916) XXX. 397; (1917) XXXI. 324; (1918) XXXII. 261; (1919) XXXIII. 298; (1920) XXXIV. 274; (1921) XXXV. 271.		
Wart disease in—Deputation to Board of Agriculture . . . . .	XXXIV.	414
Report of deputation as to 1922 crop . . . . .	XXXV.	393
<b>POULTRY, 'Scottish Poultry News' offers challenge cup for . . . . .</b>	XXXI.	409
<b>POULTRY industry, some observations on the Scottish, by P. A. Francis . . . . .</b>	XXX.	126
<b>PRESIDENTS of the Society—</b>		
The Earl of Rosebery, K.G., K.T., elected June 1916 . . . . .	XXIX.	335; re-elected June 1917, XXX. 456; re-elected June 1918, XXXI. 378.
The Duke of Richmond and Gordon, K.G., elected June 1919 . . . . .	XXXII.	393
The Duke of Montrose, K.T., elected June 1920 . . . . .	XXXIII.	428
The Earl of Stair, elected June 1921 . . . . .	XXXIV.	415
The Mackintosh of Mackintosh, elected June 1922 . . . . .	XXXV.	414
<b>PRICE-FIXING, committee appointed on . . . . .</b>	XXX.	438
<b>PRICES Board for potatoes, chairman to represent Society on . . . . .</b>	XXXIII.	409
<b>PRICES of home-grown wheat, barley, oats, and beans in Edinburgh Market— (1916) XXIX. 300; (1917) XXX. 408; (1918) XXXI. 335; (1919) XXXII. 272; (1920) XXXIII. 309; (1921) XXXIV. 285; (1922) . . . . .</b>	XXXV.	281
<b>PRICES of milk, letter from Ministry of Food noting representations with regard to . . . . .</b>	XXXI.	352
<b>PRICES of sheep and wool since 1818 . . . . .</b>	XXIX. 305; XXX. 413; XXXI. 339; XXXII. 276; XXXIII. 313; XXXIV. 289; XXXV. 282.	
<b>PRIME Minister's visit to Edinburgh, proposed . . . . .</b>	XXXII.	380
<b>PRIMROSE, The Hon. NEIL, death of . . . . .</b>	XXX.	444

	Vol.	Page
PROCEEDINGS at board and general meetings	(1916) XXIX. 319; (1917) XXX. 427; (1918) XXXI. 352; (1919) XXXII. 269; (1920) XXXIII. 405; (1921) XXXIV. 393; (1922) XXXV. 391.	
PROHIBITION of distilling, letters from Sir Robert Usher as to,	XXIX. 324; no action taken, XXIX. 324.	
PROPORTIONAL Representation—Letter from Central Chamber of Agriculture,	XXX. 451; petition signed, 449.	
PUBLICATIONS—		
Delay of issue of 'Transactions'	XXIX. 324, 337; XXX. 460; XXXI. 364, 386; XXXII. 384.	
Payments to writers	XXX. 435; XXXII. 384; XXXIII. 422; XXXIV. 400; XXXV. 398.	
Report to general meeting	(Jan. 1917) XXIX. 339; (Jan. 1918) XXX. 463; (Jan. 1919) XXXI. 382; (Jan. 1920) XXXII. 400; (Jan. 1923) XXXV. 416	
Suggested changes in the tables regarding prices of sheep and wool	XXIX. 327	

## R

RAILWAY charges for stock, &c., to and from Shows—Deputation to Ministry of Transport	XXXIII. 407
RAILWAY rates, £10, 10s. towards expenses of counsel on	XXXV. 397
RAILWAY sacks, demurrage on, correspondence as to	XXXIII. 417
RAINFALL Records, in inches	(1916) XXIX. 286; (1917) XXX. 394; (1918) XXXI. 321; (1919) XXXII. 258; (1920) XXXIII. 295; (1921) XXXIV. 271; (1922) XXXV. 268.
RAMSAY, Colonel R. G. WARDLAW—Resolution on his death	XXXIV. 396
RAPE, acreage in each county of Scotland	(1916) XXIX. 287; (1917) XXX. 395; (1918) XXXI. 322; (1919) XXXII. 259; (1920) XXXIII. 296; (1921) XXXIV. 272; (1922) XXXV. 269.
RATEPAYERS' central organisation—	
Application for contribution	XXXV. 391
Contribution to funds refused	XXXV. 397
Further information required	XXXV. 395
RATING, committee on local—Remitted to committee,	XXXIV. 395; Report to General Meeting (June 1921), XXXIV. 416.
RECORDS, Milk. See "Milk."	
RECRUITING and agriculture, conference on	XXIX. 327
RED Poll cattle, their history, characteristics, and capabilities, by Davis Brown, M.A., J. P.	XXXV. 69
REID, JOHN, Aberdeen, appointed showyard erector at fee of £500	XXXII. 385
RELATION of climate and other secondary factors to certain diseases in animals, by J. P. M'Gowan, M.A., M.D., B.Sc.	XXXII. 56
RELATIONSHIP between citric solubility of phosphates and yield of turnip crop, by Dr J. F. Tocher	XXXIV. 196
RELIEF of Allies, grant of £1000 to Scottish Agricultural Committee for	XXXII. 370, 373, 394
RENSHAW, Sir CHARLES BINE, resolution on his death	XXXI. 352
REPORT on trial of turnip-lifting machines, 1919	XXXII. 281
REPRESENTATIVES of Board on other bodies. See Appendix to each volume.	
RESEARCH in animal nutrition—	
Letter as to grant	XXXIII. 405
Funds for institution for	XXXII. 392
RESEARCH in plant-breeding. See under "Plant-Breeding."	

	Vol.	Page
<b>RESEARCH</b> into animal diseases. See "Animal"—		
Grant of £10 for . . . . .	XXXII.	390
Recommendations as to Association . . . . .	XXXII.	390
Report of conference . . . . .	XXXII.	384
<b>RESERVE</b> fund, special, motion by Dr Douglas as to . . . . .	XXXV.	398
<b>RESTORATION</b> of land to pasture, by William J. Profeit, M.A., B.Sc., and William M. Findlay, N.D.A. . . . .	XXXI.	208
<b>RHIZOMES</b> , bracken, and their food value, by Professor James Hendrick . . . . .	XXXI.	227
<b>RICHMOND</b> and Gordon, Duke of, K.G.—		
Champion medals offered . . . . .	XXXII.	389
Elected President, 1919-20 . . . . .	XXXII.	393
Remarks on Parliamentary interference . . . . .	XXXIII.	432
<b>ROBERTSON</b> , Dr J. W., to address Board on Canadian cattle embargo .	XXXII.	370
<b>ROBERTSON</b> , JOHN, Fodderty—		
Motion as to maximum prices . . . . .	XXX.	438
On deputation as to wool clip, 1917 . . . . .	XXIX.	334
Resolution on his death . . . . .	XXXIII.	410
Special prize for Highland ponies . . . . .	XXXII.	384
<b>ROSEBERRY</b> , Earl of, President—		
Absence of . . . . .	XXXI.	383
Elected President . . . . .	XXIX.	335
Re-elected . . . . .	XXX. 456 ; XXXI.	378
<b>ROTATION</b> cropping: on a demonstration area in Wigtownshire, by Principal W. G. R. Paterson, B.Sc. . . . .	XXXIV.	115
<b>ROYAL</b> (Dick) Veterinary College, centenary anniversary . . . . .	XXXV.	406
<b>ROYAL</b> Scottish Arboricultural Society, special grant of £30 for exhibition of timber at Stirling Show, 1921 . . . . .	XXXIII.	425
<b>RURAL</b> institutes, women's, grant of £50 to . . . . .	XXXI.	352
<b>RURAL</b> policy, forestry and, by Sir John Stirling Maxwell, Bart. .	XXXI.	67
<b>RYE</b> , acreage in each county of Scotland (1916) XXIX. 287 ; (1917) XXX. 395 ; (1918) XXXI. 322 ; (1919) XXXII. 259 ; (1920) XXXIII. 296 ; (1921) XXXIV. 272 ; (1922) XXXV. 269.		

S

<b>SACKS</b> for grain, shortage of railway, letter from B.O.A.S. . . . .	XXXI.	356
<b>SAILORS</b> and soldiers on the land, memorandum as to settlement of .	XXXI.	385
<b>SAINFOIN</b> , acreage in each county of Scotland (1916) XXIX. 287 ; (1917) XXX. 395 ; (1918) XXXI. 322 ; (1919) XXXII. 259 ; (1920) XXXIII. 296 ; (1921) XXXIV. 272 ; (1922) XXXV. 269.		
<b>SALARIES</b> —		
Mr MacNeillage calls attention to . . . . .	XXXII.	398
Increase from 1st December 1918, . XXXII. 371 ; 1st March 1920, XXXIII. 413		
<b>SALE</b> of stock by dead weight, recommendations regarding . . . . .	XXXI.	354
<b>SCARLETT</b> , J. W., draws attention to value of fish manure . . . . .	XXXII.	399
<b>SCIENCE</b> . . . . .	XXIX.	327
Application by Professor Cossar Ewart for a grant—no action . . . . .	XXIX.	321
Bacteriological examinations for members . . . . .	XXXV.	402
Chemist's fee raised to £100 . . . . .	XXXI.	362
Conferences with farmers regarding louping-ill . . . . .	XXXII.	387
Fees for analysis increased 50 per cent and charges to members to remain as before . . . . .	XXXI.	362
"Grass-sickness" investigation to be continued . . . . .	XXXII. 389 ; XXXIII.	416
Grass-sickness investigation to be continued . . . . .	XXXV.	413
Proposed standard table of unexhausted values of manures and feeding stuffs . . . . .	XXXV.	410

	Vol.	Page
<b>SCIENCE—continued.</b>		
Report to General Meeting (1918-19)	XXXI.	382, 385
Resolution as to distribution of sulphate of ammonia, 1915	XXIX.	320
Suggestion that work of chemical and botanical departments be handed over to agricultural colleges—no change recommended	XXIX.	322
Table showing the value of feeding-stuffs as manure per ton	XXXIII.	437
Unit prices to be issued as formerly	XXIX.	333
Values of unexhausted manures and feeding-stuffs, table to be reissued	XXXV.	410
<b>SCIENTIFIC and Industrial Research Department, Mr Peter MacIntyre appointed representative</b>	XXXII.	383
<b>SCIENTIFIC societies, conjoint board of—report</b>	XXXI.	359
<b>SCHOOL children and potato-lifting, conference as to</b>	XXXIII.	418
<b>SCOTLAND, flax-growing in, by Thomas Young, M.B.E., N.D.A., F.S.I.</b>	XXXII.	79
<b>SCOTTISH agriculture during the war, by Charles Douglas, D.Sc., C.B.</b>	XXXI.	1
<b>SCOTTISH Agricultural Implement Dealers' Association suggests alteration of dates for Dumfries Show, 1922</b>	XXXIV.	401
<b>SCOTTISH Board of Health Bill, resolution as to a veterinary surgeon on Board</b>	XXXII.	374
<b>SCOTTISH Central Allocation Authority (potatoes, 1918 crop), Mr Wm. Henderson submits motion</b>	XXXII.	400
<b>SCOTTISH Coalition Committee of the House of Commons, delegates sent on various matters</b>	XXXII.	373, 374
<b>SCOTTISH Council of Agriculture—</b>		
Representatives on	XXIX. 331 ; XXXII.	376
Report approved	XXIX.	330
Nomination of Chairman of Directors as member	XXXIII.	406, 408
Discontinued, and sending £5, 7s. 2d., share of balance	XXXII.	382
<b>SCOTTISH Meteorological Society, thanks for donation of £20</b>	XXXIV.	398
<b>SCOTTISH Milk Advisory Committee, Mr John M'Caig appointed representative on</b>	XXXI.	370
<b>SCOTTISH National War Memorial, permission to take collection at Dumfries Show refused</b>	XXXV.	394
<b>SCOTTISH poultry industry, some observations on the, by P. A. Francis</b>	XXX.	126
<b>SCOTTISH station for research in plant-breeding, proceedings at conference on. See "Plant-Breeding."</b>	XXXI.	388
<b>SCOTTISH stockbreeders and breed societies, resolution as to export of live stock</b>	XXXII.	374
<b>SCOTTISH women's rural institutes, grant of £50</b>	XXX. 455 ; XXXII.	385
<b>SECOND clerk, Mr R. C. Todd appointed</b>	XXXIV.	408
<b>SECRETARY, congratulations to, re entertainment tax exemption</b>	XXXII.	373
<b>SECRETARY for Scotland, status of, Chairman to attend conference</b>	XXXII.	413
<b>SEED-TESTING Station—</b>		
Representatives to attend conference	XXX.	454
Dr Wilson reported on proceedings	XXX.	454
<b>SEED testing and registration station, letter from Board of Agriculture as to representation on</b>	XXXI. 356 ; representatives on, XXXI.	360
<b>SEEDS Act, 1920, representative to attend conference</b>	XXXIII.	427
<b>SEEDS and Weeds Bill—no action taken</b>	XXXII.	390
<b>SEEDS, official control of trade in</b>	XXXII.	377

	Vol.	Page
SELLAR, R. H. N., Alloa, resolution on his death . . . . .	XXXI.	366
<b>SHEEP—</b>		
Number of, in each county of Scotland (1916) XXIX. 292; (1917) XXX. 400; (1918) XXXI. 327; (1919) XXXII. 264; (1920) XXXIII. 301; (1921) XXXIV. 277; (1922) XXXV. 274		
Number and value of, imported into Great Britain from Ireland (1916) XXIX. 299; (1917) XXX. 407; (1918) XXXI. 334; (1919) XXXII. 271; (1920) XXXIII. 308; (1921) XXXIV. 284; (1922) XXXV. 280.		
Number and value of, imported into United Kingdom (1916) XXIX. 299; (1917) XXX. 407; (1918) XXXI. 334; (1919) XXXII. 271; (1920) XXXIII. 307; (1921) XXXIV. 283; (1922) XXXV. 280.		
Number of, returned under Markets and Fairs Act (1915) XXIX. 298; (1916) XXX. 406; (1917) XXXI. 333; (1918) XXXII. 270; (1919) XXXIII. 307; (1920) XXXIV. 283.		
Prices of, since 1818 XXIX. 305; XXX. 413; XXXI. 339; XXXII. 276; XXXIII. 313; XXXIV. 289; XXXV. 282.		
<b>SHEEP—</b>		
Oxford Down, by Robert Graham . . . . .	XXXII.	122
Shropshire, by Thomas A. Buttar . . . . .	XXXV.	84
Suffolk, by Miss E. M. Prentice . . . . .	XXXII.	127
SHEEP dips, sale of, resolution as to . . . . .	XXXIII.	412
SHEEP diseases investigation, appeal for support . . . . .	XXXI.	369
SHEEP, the inheritance of mutton points in, by K. J. J. Mackenzie, M.A., and F. H. A. Marshall, Sc.D. . . . .	XXIX.	37
SHEEP maggot-fly, Dr Tocher to carry out experiments as to remedial measures . . . . .	XXIX.	333
<b>SHEEPSKIN Prices—</b>		
Letter from Wester Ross Farmers' Club . . . . .	XXXI.	352
Result of inquiries as to . . . . .	XXXI.	361
SHORTHORN, the modern, by James Cameron . . . . .	XXXII.	101
SHORTHORNS, dairy, offer of special prize declined (1920) . . . . .	XXXII.	389
<b>SHIELDS, G. BERTHAM—</b>		
Appointed on Committee of Diseases of Animals Investigation . . . . .	XXXI.	377
Appointed on Potato Order Allocation Authority . . . . .	XXXI.	358
Appointed representative on Potato Crop, 1918 . . . . .	XXXI.	367
SHOULDER drains, notes on wedge and, by George W. Constable and William Elliot . . . . .	XXX.	171
<b>SHOW of 1917—</b>		
Consideration of . . . . .	XXIX.	327
Invitation from Perth . . . . .	XXIX. 329; postponed, 338; also Appendix, 60.	
SHOW of 1918—no show to take place . . . . .	XXX.	461
SHOW of 1919—to be held in Edinburgh division . . . . .	XXXI.	384
SHOW of 1920—to be held in Aberdeen division . . . . .	XXXII.	394
SHOW of 1921—to be held in Stirling division . . . . .	XXXII.	394
SHOW of 1922—to be held in Dumfries division . . . . .	XXXII.	387, 399
SHOW of 1923—to be held in Inverness division . . . . .	XXXIII.	422, 436
<b>SHOW of 1924—</b>		
Invitation from Perth Town Council . . . . .	XXXIV.	408
Perth Town Council invites Society . . . . .	XXXIII.	417
To be held in Perth division . . . . .	XXXIV.	408, 423
<b>SHOW of 1925—</b>		
Committee to inspect proposed sites . . . . .	XXXV.	395
Invitation from Glasgow . . . . .	XXXV.	396
Invitation from Hamilton . . . . .	XXXV.	421
To be held in Glasgow show division . . . . .	XXXV.	408, 406
SHOW, hundredth anniversary of first, by John Stirton . . . . .	XXXIV.	1

	Vol.	Page
SHROPSHIRE Sheep, by Thomas A. Buttar . . . . .	XXXV.	84
SIMPSON, Mrs W., retiring allowance increased to £30 . . . . .	XXXIII.	420
SIMPSON, WILLIAM (caretaker), resolution on his death . . . . .	XXXIII.	414
SIRMS, famous Clydesdale, by Archibald MacNeillage . . . . .	XXXI.	189
SKYE, Isle of, letter <i>re</i> relief of islanders . . . . .	XXXIII.	406
SLAUGHTER of cattle, Government proposals regarding, and draft letter to Secretary for Scotland . . . . .	XXX.	436
SLAUGHTER of cows in calf—Directors disapprove of regulation . . . . .	XXIX.	332
SMITH, ADAM, of Lochlands—offer of Silver Cup . . . . .	XXXIII.	416
SMITH & WOOD's Turnip-lifting machine, report on . . . . .	XXXV.	393
SOCIETY's premises—motion as to more convenient . . . . .	XXXII.	382
SOIL drainage, the measurement of, by Professor James Hendrick, B.Sc. . . . .	XXXIII.	56
SOLDIERS, Australian, and farm training, placing of . . . . .	XXXI.	368
SOLDIERS and sailors on the land—memorial to Secretary for Scotland . . . . .	XXXI.	361
SOLDIERS, Overseas—		
Farm visits to be continued . . . . .	XXXI.	367
Placing of, on farms . . . . .	XXXII.	370
Visits of, to farms . . . . .	XXXI., 354, 358	
SOME problems of the milk industry, by Gerald Leighton, O.B.E., M.D., F.R.S.E. . . . .	XXXIII.	180
SPECIAL Meeting of Directors . . . . .	XXX.	439
" <i>re</i> research in plant-breeding . . . . .	XXXI.	363, 364
SPECIAL General Meeting—grant of £2000 to station for research in plant breeding . . . . .	XXXI.	383
SPENCE, Major D. A., of Conveth Mains, V.D., resolution on his death . . . . .	XXXIV.	400
SPROT, Major Mark, appointed steward of catering . . . . .	XXXV.	412
STATISTICS, agricultural. See "Agricultural."		
ST KILDA Fund—		
Board of Agriculture arrange for seeds to be sent by trawler . . . . .	XXXIII.	409
Grant of seed oats and seed potatoes . . . . .	XXXII.	390
£100 to be spent for supplies to inhabitants of Island . . . . .	XXIX.	323
Seed potatoes and seed oats . . . . .	XXX. 429; XXXI.	375
<i>Re</i> shipment of potatoes and oats . . . . .	XXXIII.	405
Thanks for seed . . . . .	XXX. 432, 453; XXXII. 380; XXXIII. 405; XXXV. 394	
STAIR, Earl of, champion medals offered by . . . . .	XXXIV.	410
STAFF, thanks to, by Chairman of Board . . . . .	XXXII.	379
STANFIELD, Professor, salary increased from December 1919, XXXII. 390; increased to £150, XXXIV. 405.		
STANDING committees, Law and Parliamentary Committee . . . . .	XXX.	453
STEWART, DUNCAN, of Millhills, resolution on his death . . . . .	XXXI.	375
STEWART, Sir HUGH SHAW, Bart., C.B., elected Chairman of Directors, XXXIV. 401; re-elected, XXXV. 399.		
Congratulation on appointment of Lord Lieutenant . . . . .	XXXV.	409
STIRLING, Brig-General ARCHIBALD, appointed Convener of Local Committee, 1921 . . . . .	XXXIII.	419
STIRLING Show, 1921—		
Abstract of accounts . . . . .	XXXIV.	399
Alterations in Award List . . . . .	XXXV.	381
Attending members appointed . . . . .	XXXIV.	398
Application for special grant of £80 for Royal Scottish Arboricultural Society . . . . .	XXXIII.	424
Authority to return entry fees if stock not allowed from England . . . . .	XXXIV.	398

STIRLING SHOW—*continued*.

Awards submitted . . . . .	XXXIV.	401
Awards for new implements . . . . .	XXXIV.	378
Berkshire pig judge . . . . .	XXXIII.	424
British Women's Temperance Association granted free site . . . . .	XXXIII.	419
British Women's Temperance Association sends £10 to funds of Royal Scottish Agricultural Benevolent Institution . . . . .	XXXIV.	401
Carriage of stock by sea . . . . .	XXXIV.	394
Casares junior cup, conditions altered . . . . .	XXXIII. 425 ; conditions agreed to, XXXIV.	394.
Caterers appointed . . . . .	XXXIV.	393
Challenge trophy for Gloucestershire old spots pigs . . . . .	XXXIII.	421
Champion medals by President . . . . .	XXXIII.	426
Classes for Cumberland pigs . . . . .	XXXIII.	421
Comments on catering at . . . . .	XXXIV.	422
Conditions of King's Park—letter from Town Council . . . . .	XXXIV.	403
Consideration of date of . . . . .	XXXIII. 409, 411,	413
Dates fixed . . . . .	XXXIII.	415
Derby competitions, facilities granted for local classes . . . . .	XXXIII.	419
Directors as attending members . . . . .	XXXIV.	393
Donation of £7, 7s. to Ambulance Association . . . . .	XXXIV.	400
"Duthie" Perpetual Challenge Cup presented . . . . .	XXXIV.	421
Forage Committee . . . . .	XXXIII.	415
Forage contract . . . . .	XXXIII.	424
Forestry exhibit, grant of £20 and free space . . . . .	XXXIII.	416
Free stands . . . . .	XXXIII. 421, 424 ; XXXIV.	394, 396
Golf club claim compensation . . . . .	XXXIII.	424
Grant of £100 from Town Council . . . . .	XXXII.	371
Grant of £10 to Stirling Miniature Rifle Club . . . . .	XXXIV.	408
Harness classes, prizes for . . . . .	XXXIV.	393
"    classification . . . . .	XXXIII.	424
"    increased . . . . .	XXXIII.	419
Hotel accommodation and catering . . . . .	XXXIII.	416
Hotel accommodation fixed . . . . .	XXXIII.	421
Hours of judging certain classes . . . . .	XXXIII.	424
Judges appointed . . . . .	XXXIII.	419
Judges and attending members . . . . .	XXXIV. 379, 380	
Judge of blackface sheep resigns . . . . .	XXXIV.	393
Judge of Gloucestershire old spots pigs . . . . .	XXXIII.	421
Judges of new implements . . . . .	XXXIV.	398
Judge of Shropshire sheep . . . . .	XXXIV.	306
King's Park to be sown out in grass . . . . .	XXXII.	378
Local committee appointed . . . . .	XXXIV.	394
Luncheon accommodation inadequate . . . . .	XXXIV.	402
Mrs S. Macdonald's offer of cup and prize declined on conditions suggested . . . . .	XXXIII.	416
Mrs S. Macdonald's Challenge Cup for goats accepted . . . . .	XXXIII.	419
Mr John Macfarlane appointed veterinary surgeon . . . . .	XXXIII.	421
Meeting of Directors, 27th July . . . . .	XXXIV. 399, 420	
Mr W. S. Miller to raise £100 for harness classes . . . . .	XXXIII.	419
No protests . . . . .	XXXIV.	399
Premiums offered . . . . .	XXXIII. (Appendix) 61 ; awarded, XXXIV.	321
Prize list submitted . . . . .	XXXIII.	418
Probable credit balance . . . . .	XXXIV.	401
Report of . . . . .	XXXIV.	294
Report to General Meeting . . . . .	XXXII. 398 ; (June 1920) XXXIII. 429 ; (Jan. 1921) XXXIII. 434 ; (June 1921) XXXIV. 415 ; (Jan. 1922) XXXIV.	422.
Site-agreements . . . . .	XXXIII.	424
Site for showyard—grass seed to be sown . . . . .	XXXII.	391
Society to spend £110 on restoration of King's Park . . . . .	XXXIV.	407
Showyard Contract Committee . . . . .	XXXIII.	424
Special grant of £30 for exhibition of timber . . . . .	XXXIII.	425
Special prizes . . . . .	XXXIII. 416, 419, 421, 425, 426 ; XXXIV.	394
Stewards appointed . . . . .	XXXIII.	421
Stewards to consider afternoon judging . . . . .	XXXIII.	418
Brig.-General A. Stirling of Keir appointed Convener of Com- mittee . . . . .	XXXIII.	419



	Vol.	Page
<b>STIRLING SHOW—continued.</b>		
Sub-committee as to site	XXXII.	377
Thanks to Mr W. S. Miller for prizes contributed . . . . .	XXXIII.	424
Timber to be hired for £3825 . . . . .	XXXIV.	393
Town Council to meet tenant's claim . . . . .	XXXII.	378
Veterinary examination of horses, new rule . . . . .	XXXIII.	424
Vote of thanks to President . . . . .	XXXIV.	421
Votes of thanks . . . . .	XXXIV.	420
Mr D. Willison invited as judge of Blackface sheep . . . . .	XXXIV.	393
See also "Show of 1921."		
<b>STIRTON, JOHN—</b>		
Congratulations to, as to Entertainments Tax exemption . . . . .	XXXII.	373
Invited to act as chief steward at Lincoln tractor trials . . . . .	XXXII.	379
Permitted to act as secretary of Plant Breeding Society . . . . .	XXXI.	365
Salary increased . . . . . XXIX. 330; XXXII. 371; XXXIII. 413		
<b>STOCK, export of live . . . . .</b>	XXXII.	373
<b>STOCK, sale of, by dead weight, recommendations regarding . . . . .</b>	XXXI.	354
<b>STOCK-FEEDING, the vitamin hypothesis and its practical significance in, by J. B. Orr, D.S.O., M.C., M.D. . . . .</b>	XXXIV.	52
<b>STOCKMAN, Sir STEWART, to attend conference as to louping ill . . . . .</b>	XXXII.	387
<b>STRAW, motion of James Elder as to prohibiting the sale or removal of . . . . .</b>	XXX.	435
<b>STRAW for paper-making, Dr Tocher submitted samples containing chaff and sand . . . . .</b>	XXXI.	353
<b>STRAW, utilisation of—</b>		
Chairman to call attention to . . . . .	XXX.	432
Memorandum by Dr Tocher . . . . .	XXX.	434
Statement as to points discussed . . . . .	XXX.	448
Sub-committee to meet Paper-makers' Association . . . . .	XXX.	434
<b>SUBSCRIPTIONS by members on active service, decision of Directors . . . . .</b>	XXX.	446 ;
XXXI. 377.		
<b>SUGAR beet, reply sent to letter from Mr E. Kimber . . . . .</b>	XXIX.	333
<b>SUFFOLK sheep, by Miss E. M. Prentice . . . . .</b>	XXXII.	127
<b>SULPHATE of ammonia—</b>		
Mr Wm. Henderson of Lawton calls attention as to conditions of supply of . . . . .	XXIX.	319
No action as to Mr W. Henderson's letters . . . . .	XXIX.	327
Replies as to resolution from Secretary for Scotland and Board of Agriculture, XXIX. 322; Mr James Elder dissatisfied with answer . . . . .	XXIX.	322
Resolution to Board of Agriculture as to distribution of, in 1915 . . . . .	XXIX.	320
<b>SUMMER time, representatives appointed on deputation to Prime Minister . . . . .</b>	XXXIV.	414
Report of deputation . . . . .	XXXV.	39
<b>SUPERPHOSPHATE, supply of, XXX. 443; reply from Board of Agriculture . . . . .</b>	XXX.	445
<b>SWEDES. See "Turnips."</b>		

## T

<b>TAXATION, imperial and local, letter from Glasgow Agricultural Society . . . . .</b>	XXXV.	393
<b>TELEPHONE service in country districts, necessity for better . . . . .</b>	XXXII.	373
<b>THOM, R. D., of Pitlochrie—</b>		
Resolution on his death . . . . .	XXXIV.	403
To represent Society on costs of milk production . . . . .	XXXII.	379
<b>THOMSON, MOFFAT S., nominated as Director for Border Division . . . . .</b>	XXX.	423

	Vol.	Page
<b>THRESHING</b> -machines, no action as to suggested trial . . . . .	XXXV.	408
<b>TIMBER</b> contract for Shows to be carried out by Society . . . . .	XXXII.	385
<b>TOCHER</b> , Dr J. F., fee raised to £100 . . . . .	XXXI.	362
<b>TODD</b> , ROBERT C., appointed Second Clerk . . . . .	XXXIV.	408
<b>TRACTOR</b> Demonstration, 1917—		
Board of Agriculture contributes £500 . . . . .	XXXI.	379
Mr W. Elliot and Mr R. H. N. Sellar added to committee . . . . .	XXX.	400
Increased grant from Board of Agriculture for Scotland . . . . .	XXXI.	362
£500 authorised by Society for expenses . . . . .	XXX.	439
International Harvester Company not to claim for cost of carriage . . . . .	XXX.	445
Letter from Board of Agriculture as to . . . . .	XXX.	439
Morris, Russell, & Co., Ltd., not to charge expenses . . . . .	XXX.	447
Original estimate of expenses exceeded . . . . .	XXX.	445
Report on . . . . .	XXX.	295
Report of, submitted . . . . .	XXX.	445
Report by Convener . . . . .	XXX.	442
Report to General Meeting . . . . .	XXX.	457, 463
Mr Shields reports as to proposed . . . . .	XXX.	433
Votes of thanks . . . . .	XXX.	443, 445
<b>TRACTOR</b> Demonstration, 1922—		
Dates fixed and sub-committee's recommendations for classifica- tion . . . . .	XXXIV.	410
Delay of report on . . . . .	XXXV.	409
Motion by Mr Phipps O. Turnbull . . . . .	XXXIV.	402
Report laid on table . . . . .	XXXV.	411
Report of . . . . .	XXXV.	167
Report to be issued in December . . . . .	XXXV.	401
Report to General Meeting . . . . .	XXXIV. 424 ; XXXV.	415, 421
Site fixed at Fordel . . . . .	XXXIV.	413
Sub-committee to arrange . . . . .	XXXIV.	405
<b>TRACTOR</b> Ditcher—		
Appointment of driver and mechanic . . . . .	XXXII.	373
Arrival of "Buckeye" machine . . . . .	XXXI.	385
Board of Agriculture to purchase machine . . . . .	XXXI.	380
Charge for hire to be 6s. per chain . . . . .	XXXII.	387
Interim report on work of . . . . .	XXXIII.	411
Ministry of Agriculture asks loan of . . . . .	XXXIII.	408, 413
Proposed charges for hire . . . . .	XXXII.	375
Report to General Meeting . . . . .	XXXII. 395, 400 ; (Jan. 1921)	XXXIII. 435
Report by committee on purchase . . . . .	XXXI.	379
Report on the work done . . . . .	XXXIII.	429
Skilled mechanic to be engaged . . . . .	XXXI.	377
State of income and expenditure, 1919-20 . . . . .	XXXIII.	419
Sub-committee to appoint driver . . . . .	XXXII.	370
See also "Mechanical Drainage."		
<b>TRACTOR</b> ploughs, representations to Board of Agriculture regarding . . . . .	XXXI.	358
<b>TRACTOR</b> trials at Lincoln—		
Secretary invited to act as chief steward . . . . .	XXXII.	379
Invitation to members of Board . . . . .	XXXII.	379
<b>TRACTOR</b> workers, training of . . . . .	XXXI.	366
<b>TRACTORS</b> , agricultural, motion by Mr William Poole as to . . . . .	XXX.	435
<b>TRADE</b> , national policy in, Directors approve of conference taking place . . . . .	XXIX.	334
<b>TRANSPORT</b> Commissioner for Scotland, appointment of . . . . .	XXXIII.	417
<b>TRAVELLING</b> expenses, motion regarding payment of Directors' . . . . .	XXXIV.	414
No action taken . . . . .	XXXV.	393
<b>TRIALS</b> , machinery. See "Implements."		

	Vol.	Page
<b>TURNBULL, PHIPPS O.—</b>		
Motion as to tractor demonstration . . . . .	XXXIV.	402
Question of entry fees for implements remitted back for consideration . . . . .	XXXIV.	408
<b>TURNIP</b> crop, the relationship between citric solubility of phosphates and yield of, by Dr J. F. Tocher . . . . .	XXXIV.	196
<b>TURNIP-LIFTING Machines—</b>		
Arrangements for trial of . . . . .	XXXII.	381
Demonstrations to be held . . . . .	XXXI.	377
Proposed trial of . . . . .	XXXII. 376, 395 ; XXXV.	393
Report to General Meeting . . . . .	XXXII.	400
Report by judges submitted . . . . .	XXXII.	387
Report on trial . . . . .	XXXII.	281
Report on Smith & Wood's machine . . . . .	XXXV.	393
Sub-committee to arrange details for trial . . . . .	XXXII.	378
<b>TURNIPS—</b>		
Acree in each county of Scotland (1916) XXIX. 287 ; (1917) XXX. 395 ; (1918) XXXI. 322 ; (1919) XXXII. 259 ; (1920) XXXIII. 296 ; (1921) XXXIV. 272 ; (1922) XXXV. 269.		
Total produce, acreage, and average yield per acre (1915) XXIX. 290 ; (1916) XXX. 398 ; (1917) XXXI. 325 ; (1918) XXXII. 262 ; (1919) XXXIII. 299 ; (1920) XXXIV. 275 ; (1921) XXXV. 272.		
<b>TURNIPS</b> , aphides on, statement by Dr Macdougall . . . . .	XXXII.	384
<b>TURNIPS</b> , the use of lime in controlling finger-and-toe in, by Professor James Hendrick, B.Sc., F.I.C. . . . .	XXX.	137
U		
<b>UNEXHAUSTED</b> manurial values, improved scheme for determining, by Professor James Hendrick, B.Sc. . . . .	XXXII.	1
<b>UNEXHAUSTED</b> manures and feeding-stuffs, valuation of, Scale C.—		
annual issue of . . . . .	XXXIII.	420, 423
Proposed standard table . . . . .	XXXV.	408
<b>UNIT</b> prices, to be issued as usual from prices issued by Board of Agriculture . . . . .	XXIX. 333 ; XXX. 450 ; XXXI.	374
<b>UNITS</b> to be used in determining the commercial value of manures.		
See Appendix to each volume (1917) XXIX. 38 ; (1918) XXX. 38 ; (1919) XXXI. 34 ; (1920) XXXII. 35 ; (1921) XXXIII. 38 ; (1922) XXXIV. 38 ; (1923) XXXV. 38.		
V		
<b>VALUATION</b> of showyard plant . . . . .	XXXIII.	416
<b>VALUE</b> of ensilage, views of users in Scotland, by David M'Culloch . . . . .	XXXV.	28
<b>VEGETABLES</b> , quantity imported into the United Kingdom. See "Fruit," &c.		
<b>VEHICLES</b> , lights on, Chairman to give evidence before Committee . . . . .	XXXII.	385
<b>VETCHES</b> , acreage in each county of Scotland (1916) XXIX. 287 ; (1917) XXX. 395 ; (1918) XXXI. 322 ; (1919) XXXII. 259 ; (1920) XXXIII. 296 ; (1921) XXXIV. 272 ; (1922) XXXV. 269.		
<b>VETERINARY</b> College, Glasgow—		
Application for grant . . . . .	XXXII.	390
Conditions as to payment of grant . . . . .	XXXIII.	411
Grant of £800 to . . . . .	XXXII.	392
Term of office of representatives . . . . .	XXXI.	359
Thanks for proposed grant . . . . .	XXXIII.	406
<b>VETERINARY</b> College, Royal (Dick)—		
Additional grant of £600 to . . . . .	XXIX.	319, 336
Conditions as to grant to be fulfilled . . . . .	XXIX.	320
Finance Committee satisfied with conditions as to grant to . . . . .	XXIX.	324

	Vol.	Page
<b>VETERINARY Department—</b>		
Institution of. See Appendix to each volume.		
Medals to students	(1916) XXIX. 310; (1917) XXX. 418; (1918) XXXI. 344; (1919) XXXII. 359; (1920) XXXIII. 393; (1921) XXXIV. 381; (1922) XXXV. 380.	
VETERINARY department investigations into grass-sickness in horses.		
See under "Grass"		375
VETERINARY students, exemption of	XXX. 455; XXXI. 353, 355	
VETERINARY Surgeons Act Amendment Bill, 1920, law-agent's opinion and report		XXXIII. 408, 410
VITAMIN hypothesis and its practical significance in stock feeding, by J. B. Orr, D.S.O., M.C., M.D.		XXXIV. 52

W

WAGES and conditions of employment in agriculture, inquiry into	XXXII. 378
WAGES Committees, District Agricultural, communications from Board of Agriculture for Scotland and representatives appointed	XXXIII. 427
WALKER & Co., JAMES, Inverness, tender accepted for hire of timber	XXXV. 407
WALLACE & SONS, JOHN, to supply "Buckeye" ditcher at cost price	XXXI. 366
WAR conditions, cropping under, by Principal W. G. R. Paterson	XXX. 1
WAR, fertilisers before and after the, by Professor J. Hendrick, B.Sc.	XXXIV. 93
WAR Pensions, &c., Act, representative to conference in Edinburgh	XXIX. 327
WART disease in potatoes, deputation to Board of Agriculture	XXXIV. 414
Report of deputation	XXXV. 405
Report of deputation as to 1922 crop	XXXV. 393
WATT, William, Wartle, suggests alterations in conditions of ploughing competitions	XXXV. 403
WEATHER of Scotland, by Andrew Watt, M.A.	(1916) XXIX. 274; (1917) XXX. 382; (1918) XXXI. 310; (1919) XXXII. 247; (1920) XXXIII. 287; (1921) XXXIV. 263; (1922) XXXV. 260.
WEDGE and shoulder drains, notes on, by George W. Constable and William Elliot	XXX. 171
WEEDS, Seeds and, Bill—no action taken	XXXII. 390
WEST of Scotland Agricultural College—	
Application for grant to purchase dairy stock	XXXV. 403
Sir Hugh Shaw Stewart, Bart., C.B., elected Society's representative	XXXIV. 406
<b>WHEAT—</b>	
Acreage in each county of Scotland	(1916) XXIX. 287; (1917) XXX. 395; (1918) XXXI. 322; (1919) XXXII. 259; (1920) XXXIII. 296; (1921) XXXIV. 272; (1922) XXXV. 269.
Price of home-grown, in the Edinburgh Market	(1916) XXIX. 300; (1917) XXX. 408; (1918) XXXI. 335; (1919) XXXII. 272; (1920) XXXIII. 309; (1921) XXXIV. 285; (1922) XXXV. 281.
Total produce, acreage, and average yield per acre in each county of Scotland	(1915) XXIX. 288; (1916) XXX. 396; (1917) XXXI. 323; (1918) XXXII. 259; (1919) XXXIII. 297; (1920) XXXIV. 273; (1921) XXXV. 270.
WILD white clover, Mr George Wood offers seed	XXXI. 355, 360
WILSON, Sir DAVID, Bart., congratulations to, on honour	XXXII. 386
WOOD, GEORGE, Gloucestershire, offers wild white clover seed	XXXI. 355
WOMEN in agriculture—Chairman to give evidence before committee	XXXII. 370
WOMEN's Rural Institutes, Federations of, 1921	XXXIII. 53; Premiums offered (Appendix) (1922) XXXIV. 57; (1923) XXXV. 59.

	Vol.	Page
<b>WOMEN'S Rural Institutes—</b>		
Grant of £50 to . . . . .	XXXI.	352
Granted free space at Edinburgh Show, 1919 . . . . .	XXXI.	374
Meeting as to scheme for . . . . .	XXX.	433
Resolution approved as to . . . . .	XXX.	432
<b>WOOL—</b>		
Average prices of (1916) XXIX. 293 ; (1917) XXX. 401 ; (1918) XXXI. 328 ; (1919) XXXII. 267 ; (1920) XXXIII. 302 ; (1921) XXXIV. 278 ; (1922) XXXV. 275.		
Prices of, since 1818 XXIX. 307 ; XXX. 415 ; XXXI. 341 ; XXXII. 276 ; XXXIII. 315 ; XXXIV. 291 ; XXXV. 285.		
WOOL clip, 1917, Mr John C. Robertson to represent Society on deputation, XXIX. 334 ; reported proceedings . . . . .	XXX.	427
<b>WOOL clip, 1918—</b>		
Correspondence as to advance of 60 per cent. . . . .	XXXI.	367
Recommendations adopted . . . . .	XXX.	451
Representatives appointed to joint-committee . . . . .	XXX.	449
Prices for . . . . .	XXXI.	361
WOOL clip, 1919, Society's representatives . . . . .	XXXI.	363
WOOL, commandeering of, Mr David Ferrie appointed on deputation to Financial Secretary to the War Office—resolution adopted . . . . .	XXIX.	325
<b>WORLD'S Dairy Congress, 1923, chairman as representative on general committee . . . . .</b>		
Representation from Scotland . . . . .	XXXV.	418
<b>Y</b>		
YARDLEY, Mr J. G., appointed Junior Clerk . . . . .	XXXIV.	414
<b>Z</b>		
ZOOLOGICAL Department, report to General Meeting . . . . .	(1918) XXXI.	382

# ADVERTISING SHEET.

By Appointment to H.M. the King.

## JAMES GRAY & SON

INVITE INSPECTION OF  
THEIR EXTENSIVE STOCK

OF

### Fireplaces

Complete Sets of Mantelpieces and Grates for new houses, or Single Grates and Tiles for renovations. "Well Fires" and "Pyramid" Grates in large variety of Designs. Catalogues on application.

### Electric Fittings

For dining-room, drawing-room, hall, bedrooms, &c. Electric Fires and Cooking apparatus. Complete installations—including Plant—carried out in any part of the country. Estimates free.

### Kitchen Ranges

To suit every type of residence, cottage, villa, and mansion-house. Also Cooking Apparatus for clubs, hotels, and institutions. Estimates on request. Catalogue of "NOVEX" (Regd.) Ranges on application.

### Oil Lamps and Stoves

Of every description for Lighting, Cooking, and Heating. Special Selection of High-class Table and Floor Standard Lamps and Lamp Shades. Large Stock of Perfection Heating and Cooking Stoves.

### Kitchen Utensils

All kinds of Enamelled and Aluminium Ware, Brushes, Pots and Pans, Baking Boards and Wood Turnery, Mangles and Wringers, Fireproof China and Earthenware for household use.

### Cutlery and Electroplate

Special value in Stainless Steel Table and Dessert Knives, Pocket Knives and Scissors. Electro-plated Spoons and Forks, Tea Sets, Coffee Sets, Cake Baskets, &c. Canteens of Cutlery for Presents and Presentations.

## JAMES GRAY & SON

Established 1818

89 George Street, EDINBURGH

Sole Partner—Robert E. Douglas

Incorporating SMITHS & COMPANY, Established 1770.

## PRIVILEGES OF MEMBERS

MEMBERS OF THE SOCIETY ARE ENTITLED—

1. To receive a free copy of the 'Transactions' annually.
2. To apply for District Premiums that may be offered.
3. To report Ploughing Matches for Medals that may be offered.
4. To Free Admission to the Shows of the Society.
5. To exhibit Live Stock and Implements at reduced rates.<sup>1</sup>
6. To have Manures and Feeding-Stuffs analysed at reduced fees.
7. To have Seeds tested at reduced fees.
8. To have Insect Pests and Diseases affecting Farm Crops inquired into.
9. To attend and vote at General Meetings of the Society.
10. To vote for the Election of Directors, &c., &c.

## ANALYSIS OF MANURES AND FEEDING-STUFFS

The Fees of the Society's Chemist for Analyses made for Members of the Society shall, until further notice, be as follow:—

The estimation of one ingredient in a manure or feeding-stuff	:	:	5s.
The estimation of two or more ingredients in a manure or feeding-stuff	:	:	10s.

*These charges apply only to analyses made for the sole and private use of Members of the Highland and Agricultural Society who are not engaged in the manufacture or sale of the substances analysed.*

The Society's Chemist, if requested, also supplies valuations of manures, according to the Society's scale of units.

## SEEDS, CROP DISEASES, INSECT PESTS, &c.

The rates of charges for the examination of plants and seeds, crop diseases, insect pests, &c., may be had on application to the Secretary.

## ELECTION OF MEMBERS

Candidates for admission to the Society must be proposed by a Member, and are elected at the half-yearly General Meetings in January and June. It is not necessary that the proposer should attend the Meeting.

## CONDITIONS OF MEMBERSHIP

*Higher Subscription.*—The ordinary annual subscription is £1, 8s. 6d., and the ordinary subscription for life-membership is £12, 12s.; or after ten annual payments have been made, £7, 7s.

*Lower Subscription.*—Proprietors farming the whole of their own lands, whose rental on the Valuation Roll does not exceed £500 per annum, and all Tenant-Farmers, Secretaries or Treasurers of Local Agricultural Associations, Factors resident on Estates, Land Stewards, Foresters, Agricultural Implement Makers, and Veterinary Surgeons, none of them being also owners of land to an extent exceeding £500 per annum, and such other persons as, in respect of their official or other connection with Agriculture, the Board of Directors may consider eligible, are admitted on a subscription of 10s. annually, which may be redeemed by one payment of £7, 7s., and after eight annual payments of 10s. have been made, a Life Subscription may be purchased for £5, 5s., and after twelve such payments, for £3, 8s.<sup>2</sup> Subscriptions are payable on election, and afterwards annually in January.

Members are requested to send to the Secretary the names and addresses of Candidates they have to propose (stating whether the Candidates should be on the £1, 8s. 6d. or 10s. list).

JOHN STIRTON, *Secretary.*

3 GEORGE IV. BRIDGE, EDINBURGH.

<sup>1</sup> Firms are not admitted as Members; but if one partner of a firm becomes a Member, the firm is allowed to exhibit at Members' rates.

<sup>2</sup> Candidates claiming to be on the 10s. list must state under which of the above designations they are entitled to be placed on it.

**EDINBURGH WOOL SALES.**  
**RUSSELL & RAMSDEN,**  
**WOOL BROKERS, EDINBURGH,**

ESTABLISHED 1864,

HOLD Periodic Sales of all sorts of Home-Grown Wools. These Sales are held monthly in summer, and periodically during the remainder of the year. A large business is also done by private treaty.

RUSSELL & RAMSDEN confine themselves entirely to their business as Wool Brokers, and therefore devote undivided attention to the interests of their consigners.

*When desired, cash advances are sent on receipt of consignments.*

**WHITE, BURNS, & CO.,**  
**WOOL MERCHANTS, SKINNERS, AND TANNERS,**

Established 1882.

**BONNINGTON, EDINBURGH.**

**W., B., & CO.** will be pleased to quote prices for all classes of Wool, and forward empty sheets or bags immediately on application.

Butchers and Farmers consigning Skins or Wool can depend on getting highest market prices.

No Commission, use of sheets, or carriage charged, and remittance promptly on receipt of goods.

**TARPAULINS, LORRY, RICK, AND TRACTOR COVERS,**  
**MARQUEES, TENTS, AND EQUIPMENTS.**

Hiring Contractors to the leading Agricultural and Horticultural Societies, Caterers, Boy Scouts' and Boys' Brigade Organisations, &c.

On Hire — Marquees, Tents, Flags, Pennants, Palliasses, Ground Sheets, Folding Camp-beds, &c.

**DISTANCE NO OBJECT. . . . TRADE SUPPLIED.**

Telephone 162 **WILLIAM CALDER** Established 1808  
**21 Commercial Street, LEITH.**



**P. & J. HAGGART,**  
**Woollen Manufacturers to the King and Queen,**  
**ABERFELDY, N.B.**

Write for Patterns (post free) of our

**FAMOUS "ROYAL SANDRINGHAM TWEEDS"**  
**For Ladies' Dresses and Gentlemen's Suits. Tartans, Rugs, Blankets, Crumb-Cloths, &c.**  
**Ladies' and Gents' TAILOR - MADE Garments.**

We make a speciality in Ladies' and Gents' Tailoring.  
 Self-Measurement Form post free.

**WOOLS RECEIVED FOR MANUFACTURE OR EXCHANGE.**

**WE EXHIBIT YEARLY AT THE HIGHLAND SHOW.**



# Highland & Agricultural Society of Scotland

## RATES OF CHARGES FOR ADVERTISEMENTS IN THE PUBLICATIONS OF THE SOCIETY

### PREMIUM LIST—ANNUAL NATIONAL SHOW.

Issued early each year to Proprietors, Farmers, and other Owners of Horses, Cattle, Sheep, Goats, Pigs, Poultry, &c., Implement Makers, Engineers, and all likely Exhibitors throughout the United Kingdom.

Page, 7" x 4" (ordinary position),	£6	0	0
Half page,	3	10	0
Quarter page,	2	0	0

### CATALOGUE OF STOCK—ANNUAL NATIONAL SHOW.

(Issue—from 12,000 to 14,000 Copies.)

Sold at 1s. 6d. and 1s. to visitors to the Show, which is held in rotation in the leading centres in Scotland, and extends over four days in July.

Page, 7" x 4" (ordinary position),	£5	0	0
Half page,	3	0	0
Quarter page,	2	0	0

### THE TRANSACTIONS.

Issued annually in March in a handsomely bound volume, each Member of the Society—over 8000 in number—receiving a copy.

Page, 7" x 4" (ordinary position),	£6	0	0
Half page,	3	10	0
Quarter page,	2	0	0

RATES.—In one Publication, *strictly net*; in two Publications, *5 per cent reduction*; and in three Publications—if ordered at same time—*10 per cent reduction*.

Only a very limited number of Advertisements can be accepted for the PREMIUM LIST and the TRANSACTIONS.

*Quotations for Special Positions on application.*

All Communications regarding ADVERTISEMENTS to be addressed to the Society's Advertising Agents—

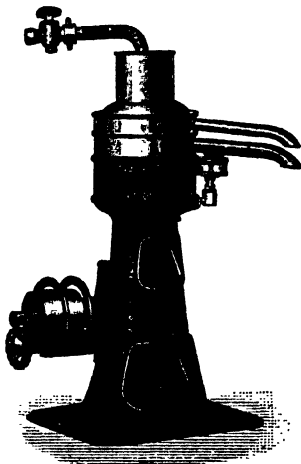
HENRY MUNRO, Ltd., 82 Mitchell Street, GLASGOW.

 All Orders for Advertisements in the Publications of the Highland and Agricultural Society are accepted subject to the approval of the Secretary of the Society.

JOHN STIRTON, *Secretary*.

OFFICES OF THE SOCIETY,  
3 GEORGE IV. BRIDGE, EDINBURGH.

# ALFA LAVAL CREAM SEPARATORS



**A**N ALFA LAVAL Cream Separator saves and serves twice a day, every day in the year. It is the producer of a steady, never-failing income during every month, regardless of season or weather.

Its saving of butter-fat alone is so great that the Alfa Laval pays for itself in a short time. After that the extra profit is yours.

The Alfa Laval Separator eliminates the drudgery of gravity skimming. It saves the energy wasted in operating a heavy-running separator. And it lasts a lifetime. That's why there are more than 2,500,000 Laval's in daily use the world over. It brings prosperity to you.

**SOLE AGENTS—**

**DAIRY SUPPLY CO. LTD.**  
**GRASSMARKET, EDINBURGH**

## The Farming News

**SCOTLAND'S BEST AGRICULTURAL PAPER.**

Everything of real interest and attractiveness to the farming community will be found in the pages of the 'Farming News.'

You won't find anything of the "flat, stale, and unprofitable" order in this modern agricultural paper. It appeals to the farmer and the farmer's wife, and to all who do business with or in the farming community.

# 10/6

a year will bring it to your door every Wednesday morning.

### Our Herds and Studs Annual

Is recognised as the greatest agricultural and breeders' illustrated annual in the world, and, like the weekly paper, is produced in its entirety at the printing works of the 'Farming News,' the only agricultural publication in Scotland possessing its own printing plant.

#### OFFICES:

**Glasgow** 82 Mitchell Street. **Perth** . 64 Watergate.  
**Aberdeen** . 10 Crown Street.  
**London** . Imperial House, Cavendish Square.

# POTASH.

## YOUR SOILS NEED POTASH

to maintain fertility.

## YOUR CROPS NEED POTASH

- (1) to produce strong hardy plants able to stand the weather, and to resist diseases better;
- (2) to give the largest yields of produce, which sells best, which feeds best, and which keeps best.

---

Kainit	.	.	.	.	.	12½	per cent minimum.
Potash Manure Salt	.	.	.	.	.	20	„
Potash Manure Salt	.	.	.	.	.	30	„
Muriate of Potash	.	.	.	.	.	70-95	„ purity.
Sulphate of Potash	.	.	.	.	.	90 and 96	„ „

*N.B.*—Average analyses of recent cargoes of Kainit have been between 15 and 16 per cent of Potash.

---

Full supplies available of the above grades from the Potash Syndicate in fine condition.

---

*Sold by all Manure Merchants.*

*Please write for address of Merchants nearest who can supply you, to—*

**Messrs HUGO KNOBLAUCH, SONS & CO., Ltd.,**  
28 Baltic Street, LEITH.

---

*For information on how to use Potash, scientific booklets, &c., gratis—*

**JOHN DUNLOP, B.Sc., N.D.A. (Hons.),**

*Agricultural Adviser to the Potash Syndicate,*

**10 South Castle Street, EDINBURGH.**





IMPERIAL AGRICULTURAL RESEARCH  
INSTITUTE LIBRARY  
NEW DELHI.

INSTITUTE LIBRARY

Date of issue.

65-11-5